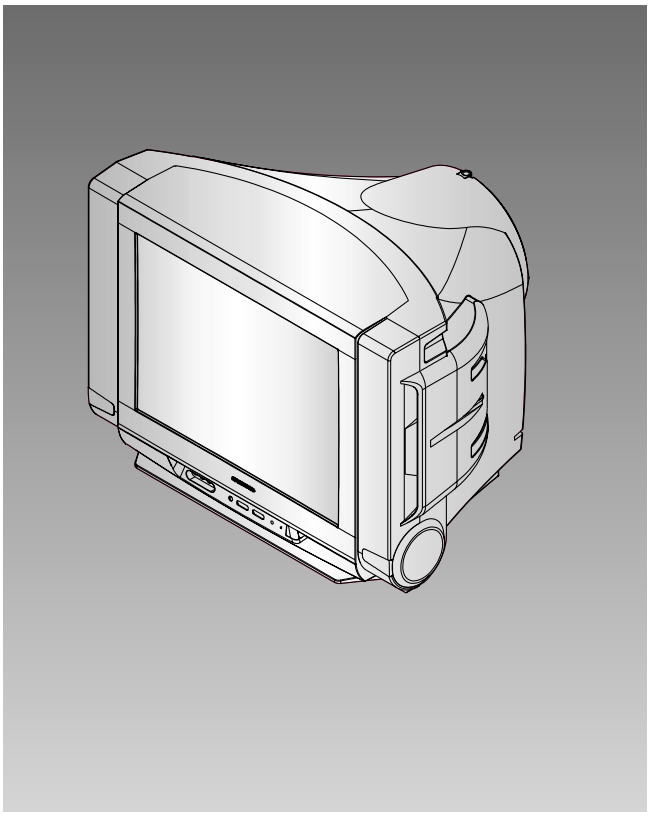
SAMSUNG

COLOR TELEVISION RECEIVER

Chassis : KS2A(P) (Rev. 2)
Model : CS21S8NAS/MUR

SERVICE Manual

COLOR TELEVISION RECEIVER



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1. Precautions

Follow these safety, servicing and ESD precautions to prevent damage and protect against potential hazards such as electrical shock and X-rays.

1-1 Safety Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including: nonmetallic control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people—particularly children—might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

   If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (Figure 1-1):
   Warning: Do not use an isolation transformer during this test. Use a leakage-current tester or a metering system that complies with American National Standards Institute (ANIS C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

5. With the unit completely reassembled, plug the AC line cord directly into the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

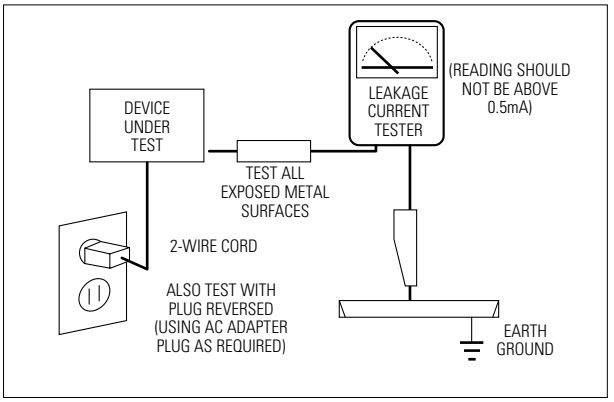
DEVICE UNDER TEST
LEAKAGE CURRENT TESTER
(READING SHOULD NOT BE ABOVE 0.5mA)
TEST ALL EXPOSED METAL SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

Fig. 1-1 AC Leakage Test

6. Antenna Cold Check:
   With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong. Connect the other lead to the coaxial connector.

7. X-ray Limits:
   The picture tube is especially designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original. Carefully reinstall the picture tube shields and mounting hardware; these also provide X-ray protection.

8. High Voltage Limits:
   High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits.
   Correct operation of the X-ray protection circuits must be reconfirmed whenever they are serviced.
   (X-ray protection circuits also may be called "horizontal disable" or "hold-down".)

   Heed the high voltage limits. These include the X–ray Protection Specifications Label, and the Product Safety and X-ray Warning Note on the service data schematic.

1-1 Safety Precautions (Continued)

9. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

10. Design Alteration Warning:
Never alter or add to the mechanical or electrical design of this unit. Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

11. Hot Chassis Warning:
Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following: Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

12. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.

13. Some TV chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.

14. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.

15. Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

16. Picture Tube Implosion Warning:
The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.

17. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.

18. Product Safety Notice:
Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original—even if the replacement is rated for higher voltage, wattage, etc.

    Components that are critical for safety are indicated in the circuit diagram by shading, (⚡) or (⚠).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications.
    A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

1-2 Servicing Precautions

Warning1: First read the "Safety Precautions" section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.
Warning2: An electrolytic capacitor installed with the wrong polarity might explode.

1. Servicing precautions are printed on the cabinet. Follow them.

2. Always unplug the unit's AC power cord from the AC power source before attempting to: (a) Remove or reinstall any component or assembly, (b) Disconnect an electrical plug or connector, (c) Connect a test component in parallel with an electrolytic capacitor.

3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.

4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.

5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).

6. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500V) to the blades of the AC plug.

   The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.

7. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

8. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3 Precautions for Electrostatically Sensitive Devices (ESDs)

1. Some semiconductor (“solid state”) devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.

2. Immediately before handling any semicon ductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power—this is an electric shock precaution.)

3. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.

4. Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.

5. Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.

6. Use only an anti-static solder removal device. Many solder removal devices are not rated as “anti-static”; these can accumulate sufficient electrical charge to damage ESDs.

7. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.

8. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.

9. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

2. Reference Information

2-1 Tables of Abbreviations and Acronyms

Table 2-1 Abbreviations

A	Ampere	MV	Megavolt
Ah	Ampere-hour	MW	Megawatt
Å	Angstrom	MΩ	Megohm
dB	Decibel	m	Meter
dBm	Decibel Referenced to One Milliwatt	µA	Microampere
		µF	Microfarad
°C	Degree Celsius	µH	Microhenry
°F	Degree Fahrenheit	µm	Micrometer
°K	degree Kelvin	µs	Microsecond
F	Farad	µW	Microwatt
G	Gauss	mA	Milliampere
GHz	Gigahertz	mg	Milligram
g	Gram	mH	Millihenry
H	Henry	ml	Milliliter
Hz	Hertz	mm	Millimeter
h	Hour	ms	Millisecond
ips	Inches Per Second	mV	Millivolt
kWh	Kilowatt-hour	nF	Nanofarad
kg	Kilogram	Ω	Ohm
kHz	Kilohertz	pF	Picofarad
kΩ	Kilohm	lb	Pound
km	Kilometer	rpm	Revolutions Per Minute
km/h	Kilometer Per Hour	rps	Revolutions Per Second
kV	Kilovolt	s	Second (Time)
kVA	Kilovolt-ampere	V	Volt
kW	Kilowatt	VA	Volt-ampere
l	Liter	W	Watt
MHz	Megahertz	Wh	Watt-hour

Table 2-2 Table of Acronyms

ABL	Automatic Brightness Limiter
AC	Alternating Current
ACC	Automatic Chroma Control
AF	Audio Frequency
AFC	Automatic Frequency Control
AFT	Automatic Fine Tuning
AGC	Automatic Gain Control
AM	Amplitude Modulation
ANSI	American National Standards Institute
APC	Automatic Phase Control
APC	Automatic Picture Control
A/V	Audio-Video
AVC	Automatic Volume Control
BAL	Balance
BPF	Bandpass Filter
B-Y	Blue-Y
CATV	Community Antenna Television (Cable TV)
CB	Citizens Band
CCD	Charge Coupled Device
CCTV	Closed Circuit Television
Ch	Channel
CRT	Cathode Ray Tube
CW	Continuous Wave
DC	Direct Current
DVM	Digital Volt Meter
EIA	Electronics Industries Association
ESD	Electrostatic Discharge
ESD	Electrostatically Sensitive Device
FBP	Feedback Pulse
FBT	Flyback Transformer
FF	Flip-Flop
FM	Frequency Modulation
FS	Fail Safe
GND	Ground
G-Y	Green-Y
H	High
HF	High-Frequency
HI-FI	High Fidelity
IC	Inductance-Capacitance
IC	Integrated Circuit
IF	Intermediate Frequency
I/O	Input/output
L	Left
L	Low
LED	Light Emitting Diode
LF	Low Frequency
MOSFET	Metal-Oxide-Semiconductor-Field-Effect-Tr
MTS	Multi-channel Television Sound
NAB	National Association of Broadcasters
NEC	National Electric Code
NTSC	National Television Systems Committee
OSD	On Screen Display
PCB	Printed Circuit Board
PLL	Phase-Locked Loop
PWM	Pulse Width Modulation
QIF	Quadrature Intermediate Frequency
R	Right
RC	Resistor & Capacitor
RF	Radio Frequency
R-Y	Red-Y
SAP	Second Audio Program
SAW	Surface Acoustic Wave(Filter)
SIF	Sound Intermediate Frequency
SMPS	Switching Mode Power Supply
S/N	Signal/Noise
SW	Switch
TP	Test Point
TTL	Transistor Transistor Logic
TV	Television
UHF	Ultra High Frequency
UL	Underwriters Laboratories
UV	Ultraviolet
VCD	Variable-Capacitance Diode
VCO	Voltage Controlled Oscillator
VCXO	Voltage Controlled Crystal Oscillator
VHF	Very High Frequency
VIF	Video Intermediate Frequency
VR	Variable Resistor
VTR	Video Tape Recorder
VTVM	Vacuum Tube Voltmeter
TR	Transistor

2-2 IC Line Up

Table 2 - 3 IC Line - Up					
NO	**BOARD**	**LOC. NO**	**SPEC**	**DESCRIPTION**	**REMARK**
1	MAIN	IC201S	VDP3112B	Video Processor	Refer to Table 2-3-1
		IC601	MSP3410D	Multistandard Sound Processor	Refer to Table 2-3-2
		IC901	SDA555X	MICOM, TTX(MTP)	
		IC902	KS24L161	EEPROM	
		IC602	TDA7297	Audio AMP	Refer to Table 2-3-3
		HIC201	DRGB001	RGB Drive AMP Hybrid IC	VM Option
		IC301	LA7845	Vertical IC	
		Q401	KSD5703	Horizontal Drive IC	DH01
		D409	FMP-3FU		
		IC401	KA393	E/W Drive IC	
		Q404	IRF620		
		IC801S	3S1265RD 3S1265R	SPS Controllor	
		D801S	RBV606	Bridge Diode	
		PC801S	PC123Y	Photo Coupler	
		IC805	KA78R05	5V Controlled Regulator	DDR01
		D806	FML-G12S F10V20S	Rectifier Diode	
		D807			
		D805	FMG-G26S F10V60S		
		IC804	KA7806	6V Regulator	
		IC803	KA78R08	8V Controlled Regulator	
		IC903	KA78RM33	3.3V Regulator	
		IC904	KIA7025AP	MICOM Reset IC	
		Q909	2N7000	IIC Level Shifter	
		Q910			
		TU01	TCPS3001PD09D(S)	Main Tuner with IF Block	Refer to Table 2-3-4
		D813	FML-G12S	Rectifier Diode	

Table 2 - 3 IC Line - Up					
NO	**BOARD**	**LOC. NO**	**SPEC**	**DESCRIPTION**	**REMARK**
2	**CRT**	IC501	TDA6101Q	Video Output AMP R.G.B Drive	PCB Version A,B,C,D
		IC502			
		IC503			
		IC501	STV5109	Video Output AMP R.G.B Drive	PCB Version F,G,H,J
3	**V-S/W**	ICS01	TEA6425	Video Switching IC with Adder Output	Option
4	**PIP**	ICP01	SDA9488X	High-end Picture-In Picture IC	Option

Table 2-3-1 VIDEO IC

SPEC	FUNCTION	REMARK
VDP3112B	50Hz Basic 1H Comb Filter	
VDP3130Y-B2	50Hz, 2H Comb Filter, DVD Input	

Table 2-3-2 SOUND IC

SPEC	FUNCTION	REMARK
MSP3400D	Multistandard, A2 Stereo, Equalizer, 2 Scart, RCA9P	
MSP3410D	Multistandard, A2 Stereo, Nicam, Equalizer, 2 Scart, RCA9P	
MSP3405D/BSP3505D	Multistandard, Line-Stereo, Mono, RCA9P	

Table 2-3-3 SOUND AMP

SPEC	FUNCTION	REMARK
TDA7297	15W x 2CH, 10W x 2CH	
TDA7266S	5W x 2CH	

Table 2-3-4 TUNER

SPEC	FUNCTION	REMARK
TCPS3001PD09A(S)	CS, Stereo	IF IC = Sanyo
TCPS3001PD09D(S)	CS, Stereo	IF IC = Philips
TCPS3001PD09C(S)	CS, Stereo, India	
TAFC-Z141D	CS, Stereo	

Table 2-3-5 HORIZONTAL DRIVE IC (Q401)

SPEC	FUNCTION	REMARK
KSD5703	50Hz, With EW Model	
KSC5386	50Hz, W/O EW Model	

MEMO

3. Specifications

Television System	**CS**	PAL / SECAM-B / G,D / K,I, NTSC-M	Depending on Tuner
	CZ	PAL / SECAM-B / G,D / K,I, NTSC4.43	
Antena Input		75ohms, Coaxial Cable	
Power	**Consumption**	65W (Applied When 21” Flat)	
	Requirements	220V Only	
		Free Voltage	Not Present R815
	Frequency	50 / 60Hz	
Sound	**Output**	15W x 2CH	
		10W x 2CH	
		5W x 2CH	
	Effect	Turbo Sound	
		Pseudo Stereo	
Jacks	**Front (AV2)**	RCA Input	
		S-VHS	Option
		Head-Phone	
	Back	2Scart Input / Output	AV1 : Scart I / O, RGB Input, RF Out AV2 : Scart I / O, Monitor Out
		DVD Input(YPbPr)	Option
		RCA Input / Output	AV1: Video / Audio-R / Audio-L AV2: Video / Audio-R / Audio-L Monitor Out : Video / Audio-R / Audio-L
		S-VHS	Option

Specifications are subject to change.

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4. Alignment and Adjustments

4-1 General Alignment Instructions

1. Usually, a color TV-VCR needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync and focus.

2. Observe the picture for good black and white details. There should be objectionable color shading; if color shading is present, demagnetize, perform purity and convergence adjustments described below.

3. Use the specified test equipment or its equivalent.

4. Correct impedance matching is essential.

5. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test results.

6. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.

7. Do not attempt to connect or disconnect any wires while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.

8. To protect against shock hazard, use an isolation transformer.

4-2 Automatic Degaussing

A degaussing coil is mounted around the picture tube, so that external degaussing after moving the TV should be unnecessary. But the receiver must be properly degaussed upon installation.

The degaussing coil operates for about 1 second after the power is switched ON. If the set is moved or turned in a different direction, the power should be OFF for at least 10 minutes.

If the chassis or parts of the cabinet become magnetized, poor color purity will result. If this happens, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube and the sides and front of the receiver. Slowly withdraw the coil to a distance of about 6 feet before turning power OFF.

If color shading persists, perform the following Color purity and Convergence adjustments.

4-3 High Voltage Check

CAUTION : There is no high voltage adjustment on this chassis. The B+ power supply should be +135 volts (with full color- bar input and normal picture level).

1. Connect a digital voltmeter to the second anode of the picture tube.

2. Turn on the TV. Set the Brightness and Contrast controls to minimum (zero beam current).

3. Adjust the Brightness and contrast controls to both extremes. Ensure that the high voltage does not exceed 30 KV under any conditions.

4-4 FOCUS Adjustment

1. Input a black and white signal.
2. Adjust the tuning control for the clearest picture.
3. Adjust the FOCUS control for well defined scanning lines in the center area of the screen.

4-5 SCREEN Adjustment

1. Input Toshiba Pattern
2. Enter “Service Mode”.(Refer to “4-8-1 Service Mode”)
3. Select “G2-Adjust”.
4. Set the values as below.

Table 1. Screen Adjustment Table

No	INCH / CRT	IBRM		WDRV		CDL		COLR G B (Smallesz Value)		REGION
		6101	5109	**6101**	**5109**	**6101**	**5109**	**6101**	**5109**	
1	14” / SDI	205	205	35	35	100	100	100	100	Noraml
2	15PF / SDI	220	225	35	35	200	160	65	100	
		215	215	35	35	100	100	100	100	CIS
3	21” 1.7R / SDI	220	215	35	45	230	160	65	80	Noraml
4	21” 1.7R / JCT	220	220	35	35	200	200	150	150	
5	21PF / TSB	220	225	35	45	230	185	65	75	
6	21PF / LG	230	225	35	45	230	175	65	165	
7	21PF / SDI	220	220	35	35	230	200	65	145	
8	25PF / SDI	210	205	35	45	150	150	65	140	
9	29” 1.3R / SDI	220	200	35	45	180	180	65	150	
10	25” 1.3R/SDI	220	210	35	35	230	220	65	130	
11	30”	210	200	35	45	160	180	100	130	

5. Turn the SCREEN VR until “MRCR G B” and “MRWDG” are green and those value are about 100. (The incorrect SCREEN Voltage may result that “MRCR G B” and “MRWDG” should be red)

4-6 E²PROM (IC902) Replacement

1. When IC902 is replaced, all adjustment data revert to the initial values.
   So, all adjustment values when servicing should be readjusted.
2. After IC902 is replaced, connect the AC power supply cord.
3. Turn the power switch ON.
4. In stand-by, warm up the TV for at least 10 seconds.
5. Power on the TV.

4-7 White Balance Adjustment

■ Equipment : Color-Analyzer (CA-100)
■ Input Signal : Pattern signal (Toshiba pattern)

1. Select STANDARD from the menu.
2. Input an 100% White pattern.
3. Enter the “Service Mode”. (Refer to “4-8 Service Mode”)
4. Warm up the TV set at least for 30 minutes.
5. Input a Toshiba pattern signal.
6. Enter the “Video Adjust1”. (Refer to table 2.)
   - Adjust “Sub Contrast” so that Y (luminance) becomes 65 ft ± 3.
   - Use “Red Drive” and “ Blue Drive” to adjust High-Light (x : 265, y : 265)
   - Adjust “Sub Bright” so that Y (luminance) becomes 1.2ft ± 0.3.
   - Use “Red Cutoff” and “Blue Cutoff” to adjust Low-Light (x : 265, y : 265).
7. Adjust CA-100 so that the final adjustment value can be fixed.
8. Use the Channel Up / Down (▲ / ▼) buttons to move the cursor on the adjustment modes.
9. Use the Volume + / - buttons to change the adjustment value.

Table 2. White Balance Table

Area	Inch	High			Low		
		X	Y	Luminance (ft)	X	Y	Luminance (ft)
East South Asia	15PF	265	265	85	265	265	1.8
	21″ 1.7R	265	265	50	265	265	1.2
	21PF	265	265	60	265	265	1.0
	25″1.3R	265	265	45	265	265	1.0
	25PF	265	265	40	265	265	1.2
	29″1.3R	265	265	35	265	265	1.0
	30″	265	265	35	265	265	1.0
Middle East Asia & Africa	14″	290	300	55	290	300	1.8
	15PF	290	300	85	290	300	1.8
	21″ 1.7R	290	300	50	290	300	1.2
	21PF	290	300	60	290	300	1.0
	25″ 1.3R	290	300	45	290	300	1.0
	25PF	290	300	40	290	300	1.2
	29″1.3R	290	300	35	290	300	1.0
	30″	290	300	35	290	300	1.0
CIS	15PF	272	270	50	265	266	2.2
	21PF	272	270	50	265	266	2.0
	25″ 1.3R	272	270	40	265	266	2.2
	25PF	272	270	30	265	266	2.2
	29″ 1.3R	272	270	30	265	266	2.2
Australia	15PF	292	307	85	301	311	1.8
	21PF	292	307	60	301	311	1.0
	25″ 1.3R	292	307	45	301	311	1.0
	25PF	292	307	40	301	311	1.2
	29″ 1.3R	292	307	35	301	311	1.0

4-8 Factory Adjustment

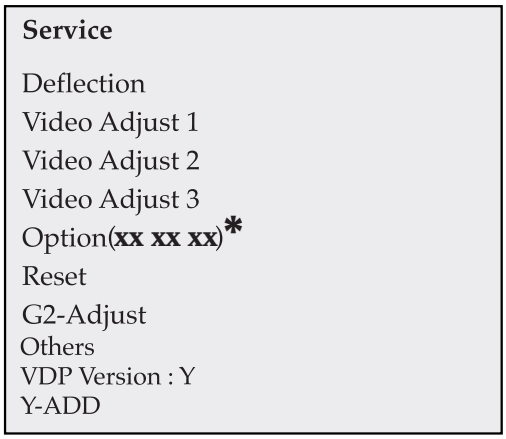
4-8-1 Service Mode

1. To enter the "Service Mode", Press the remote-control keys in this sequence :

   - If you do not have Factory remote-control

   - If you have Factory remote-control

2. After the Service Mode is entered, the initial screen is as shown in the figure below.



✱ These hexa digits are check sum value which depends on the MICOM version.
If check sum value is changed, the value of E^2PROM Data newly initialed.

3. Use the Channel Up / Down buttons to move the cursor in the adjustment parameters.

   Note :

   - When CRT, CRT PCB, FBT, E^2PROM (sometimes MICOM) is replaced, the adjustment values should be controlled.

   - After the Service adjustment is completed, Do not select "Reset" in the service mode menu. (After above procedure is done, power is on initially and the "Plug and Play" will be operated.)

Area	Micom Version	Excluded Model	Main Problems & History of Corrections
EUROPE	SIM-806EW (KS2A/KS3A)	MSP3410 94 58 VERSION	At the current mass production (MP), MASK is applying to ks2a/ks3a chassis
	SIM-806EW1 (KS2A/KS3A)		1. Improvement of Secam-L Sound Noise when using MSP3410 94 58 VERSION 2. Improvement of repetition of SECAM-L in AUTO SEARCH 3. Improvement of the gap between SCART RGB and CVBS image centers .(Added to RGB SHIFT FACTORY) 4. Correction of Greek OSD 5. Fixation of Zoom Mode Offset Changed in order to adjust in Service mode. Application of REMASK via an improvement in picture quality
	SIM-806EW2		Application of REMASK via an improvement in picture quality
	OIM-806EW (KS2A/KS3A)		TOSHIBA OEM MODEL ONLY MICOM (Applied to SEH MP)
Middle East Asia & Africa & CIS	SIM-806MA (KS2A)	CONTROL 6KEY,PIP MODEL, All 22-Q models	MTP is used for all models (excluding KS2A 22Q)
	SIM-806MA1 (KS2A/KS3A)		MTP used for KS2A 22Q models 1. VM related items (Delay1,Gain1,Limit,Delay,Coring) Adjust3) 2. Addition of PIP VSPDEL to FACTORY items 3. No color when PIP NTSC 4.43 is received 4. NICAM POP NOISE 5.Av by channel key added 6.When English is used for the language of Libia models, the Libian must be added and PROGRAM_OSD box must be reduces(Libian Only) 7. RGB SHIFT/HB START/HB STOP added 8. Countermeasure on RADIATION (Option: Pin49 output software) 9. In NTSC system, a transient phenomenon happens during the channel
	SIM-806MA2 (KS2A/KS3A)	Decided to apply MASK (June 2001)	Correction of Libian about child lock
	SIM-806MA3 (KS2A/KS3A)		1. Improvement of SECAM/PAL Color Hysteresis characteristics 2. Correction of instantaneous LNA error
East South Asia & Australia	SIM-806EA (KS2A)	Thailand,Vietnam, PIP MODEL,6-KEY,CONTROL	
	SIM-806EAY (KS2A)		MTP used for KS2A 1. Correction of Thailand/Vietnam OSD problems ("Not available", "S-Video")
	SIM-806EA1 (KS2A/KS3A)		1. Change of Indonesia sports string 2. Addtion of VM related items (Delay1,Gain1,Limit,Delay,Coring) to Adjust3 3. Addition of PIP VSPDEL to FACTORY items 4. Improvement of No Color when PIP NTSC 4.43 is received 5. Improvement of NICAM POP NOISE 6. Addition of AV by channel key service 7. Addition of RGB SHIFT/HB START/HB STOP 8. Addition of countermeasure on RADIATION (Option: pin49 output software) 9. Transient phenomena when switching CH in NTSC system 10. In Temperature Low test, the color of SECAM CH' late follows

Area	Micom Version	Excluded Model	Main Problems & History of Corrections
East South Asia & Australia	SIM-806EA1 (KS2A/KS3A)	Checking the improvement in quality: Vietnam/Thailand 28.Dec.2000	
China	SIM-806C (KS2A/KS3A)		Same with MTP (developed in 22 Sep. 2000)
	SIM-806C1 (KS2A/KS3A)		1. Improvement of color noise in LOW BURST 2. A sound saw filter switching error happens when changing Manual Color System (For a PAL channel, when switching NTSC3.58 into Auto) 3. Addition of PIP VSPDEL to FACTORY items 4. Improvement of No Color when PIP NTSC 4.43 is received 5. Addition of RGB SHIFT/HB START/HB STOP 6. Addition of countermeasure on RADIATION (Option: pin 49 output software) 7. Transient phenomena happens when switching CH' in NTSC system
India	SIM-806EI (KS2A/KS3A)		Same with MTP (developed in 6 Sep. 2000)
	SIM-806EI1 (KS2A/KS3A)		1. Addition of PIP VSPDEL to FACTORY items 2. Improvement of No Color when PIP NTSC 4.43 is received 3. Addtion of RGB SHIFT/HB START/HB STOP 4. Addition of countermeasure on RADIATION (Option: pin49 output software) 5. Transient phenomena happens when switching CH' in NTSC system 6. In Temperature Low test, the color of SECAM CH' late follows. 7. Addition of woofer to FACTORY items 8. Change of the value of equalizer (Factory Woofer in EQ ON)

4-8-2 Deflection (Memory Data)

4-8-2(A) GEOMETRIC ADJUSTMENT VALUE BY MODEL

OSD	RANGE	INITIAL DATA				
		TSB 21-FLAT	LG-CPT 21-FLAT	SDI 21" FALT	SDI 14"	SDI 15" FLA
		A51LSH196X03(+380) A51LSH198X03(-250)	A51QDJ279X14	A51QDX991X001	A34KQV42X	A36QDT351X
V SHIFT	-128~127	-40	-40	-40	-20	-18
V AMP	-128~127	20	20	-15	-40	18
V SLOPE	-128~127	0	-5	0	-5	-4
V SC	-128~127	-13	-6	-13	0	-17
H EW	-128~127	50	-30	20	61	24
H TRAPEZIUM	-128~127	20	20	-40	-8	20
H PARABOLA	-128~127	15	15	20	-3	17
H SYMMETRY	-128~127	13	13	13	12	5
H CORNER	-128~127	40	40	40	-32	69
H SHIFT	-128~127	0	0	0	0	0
PIP CONTRAST	0~15	7	15	7	7	7
PIP TINT	0~63	0	0	0	0	0
PIP VSPDEL	0~32	0	8	8	0	0
PIP PAL V. POS	0~255	33	33	33	33	33
PIP NTSC V. POS	0~255	33	33	33	33	33
PIP H. POS	0~255	45	45	45	45	45
PIP BLKLG	0~15	6	6	6	6	6

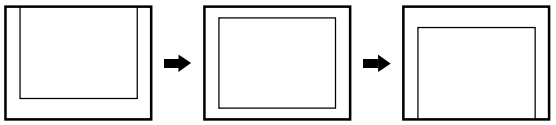
OSD	RANGE	INITIAL DATA				
		SDI 21"1.7R	SDI 25" 1.3R	SDI 25" FLAT	SDI 29" 1.3R	SDI 30"
		A51KQJ63X01	A59KPR84X01	A59QDF891X002	A68QBT891X002 A68KVL74X01	A70QBZ791X001
V SHIFT	-128~127	-40	-50	-50	-50	-40
V AMP	-128~127	5	-10	-15	-20	-48
V SLOPE	-128~127	-2	0	0	0	-2
V SC	-128~127	-7	-6	-13	0	0
H EW	-128~127	64	10	10	-55	20
H TRAPEZIUM	-128~127	-20	-50	-10	-40	-80
H PARABOLA	-128~127	-13	-40	-60	-60	-75
H SYMMETRY	-128~127	13	13	13	13	13
H CORNER	-128~127	15	40	69	70	60
H SHIFT	-128~127	0	0	0	0	-2
PIP CONTRAST	0~15	7	7	7	7	7
PIP TINT	0~63	0	0	0	0	0
PIP VSPDEL	0~32	0	0	8	0	14
PIP PAL V. POS	0~255	33	33	33	33	33
PIP NTSC V. POS	0~255	33	33	33	33	33
PIP H. POS	0~255	45	45	45	45	45
PIP BLKLG	0~15	6	6	6	6	6

4-8-2(B) GEOMETRIC ADJUSTMENT

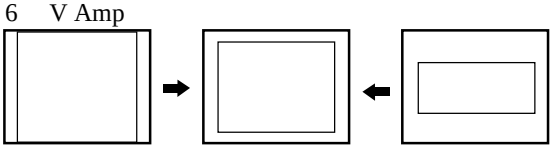
OSD	RANGE	FUNCTION
V SHIFT	-128~127	Adjusts Vertical picture position
V AMP	-128~127	Adjusts Vertical picture size. Adjust 4:4 upper and below picture size in lion head pattern at factory
V SLOPE	-128~127	Adjusts Vertical Slope Correction
V SC	-128~127	Adjusts Vertical s-correction
H EW	-128~127	Horizontal east west width. Adjust 5:5 left and right picture size in lion head pattern at factory.
H TRAPEZIUM	-128~127	Adjusts horizontal Trapezium.
H PARABOLA	-128~127	Adjusts Horizontal Parabola.
H SYMMETRY	-128~127	Adjusts the top and bottom horizontal symmetry of picture.
H CORNER	-128~127	Adjusts the top and bottom horizontal corner of picture. Adjusts so that the top and bottom of H corner can be linear.
H SHIFT	-128~127	Adjusts Horizontal Position.
PIP CONTRAST	0~15	Adjusts PIP contrast.
PIP TINT	0~63	Adjusts PIP Tint. When a NTSC signal is received, this PIP Tint adjusts color phase
PIP VSPDEL	0~32	PIP vertical sync pulse delay. When chaning data, PIP jitters at two points. In this case, the PIP VSPDEL is set to the center between two points.
PIP PAL V. POS	0~255	Adjust Vertical position the PIP of PAL system.
PIP NTSC V. POS	0~255	Adjust Vertical position the PIP of NTSC system.
PIP H. POS	0~255	Adjust Horizontal Position the PIP.
PIP BLKLG	0~15	Adjusts PIP blanking level green (PIP low light white balance).

4-8-2(C) SCREEN CHANGE (I2C BUS GEOMETRIC ADJUSTMENT)

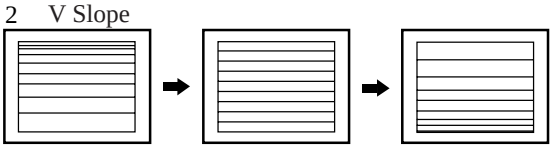
1 V Shift



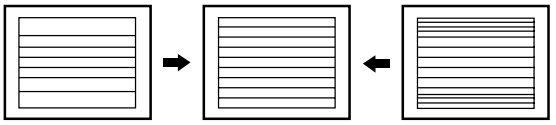
6 V Amp



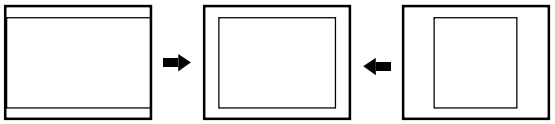
2 V Slope



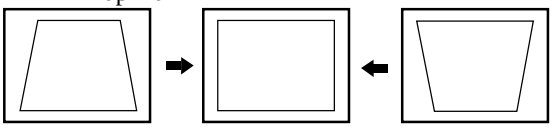
7 V SC



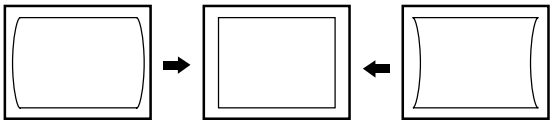
3 H EW



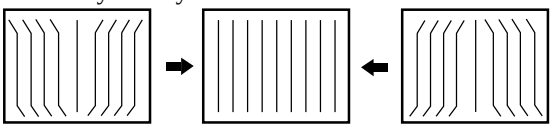
8 H Trapizium



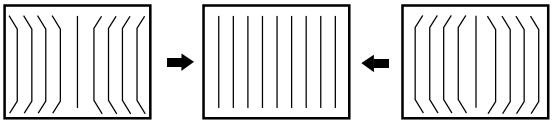
4 H Parabola



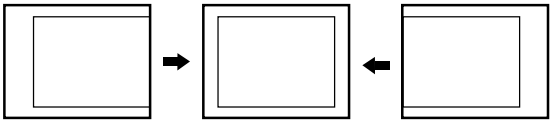
9 H Symmetry



5 H Corner



10 H Shift



4-8-2(D) VIDEO ADJUSTMENT 1

VIDEO ADJUST1	RANGE	INITIAL DATA				
		TSB 21-FLAT	LG-CPT 21-FLAT	SDI 21" FALT	SDI 14"	SDI 15" FLA
		A51LSH196X03(+380) A51LSH198X03(-250)	A51QDJ279X14	A51QDX991X001	A34KQV42X	A36QDT351X
RED CUTOFF	0~255	127	127	127	127	127
GREEN CUTOFF	0~255	127	127	127	127	127
BLUE CUTOFF	0~255	127	127	127	127	127
RED DRIVE	0~255	127	127	127	127	127
GREEN DRIVE	0~255	127	127	127	127	127
BLUE DRIVE	0~255	127	127	127	127	127
SUB BRIGHT	0~200	100	100	100	100	100
SUB CONTRAST	0~63	52	52	52	52	52
SUB COLOR	0~27	27	27	27	27	27
SUB TINT	0~100	30	30	30	30	30
BCL THRESHOLD	0~255	62	54	62	30	35
BCL GAIN	0~15	9	8	8	8	8
BCL TIME	0~15	5	13	13	13	13
TTX CONTRAST	0~255	90	90	90	90	100
P. BG YC DELAY		3	3	3	3	3
P. DK YC DELAY		6	6	6	6	6
P.I YC DELAY		6	6	6	6	6
P.M YC DELAY	RF	3	3	3	3	3
S. BG YC DELAY		3	3	3	3	3
S. DK YC DELAY		5	5	5	5	5
S.I YC DELAY		5	7	7	7	7
N.M YC DELAY		7	3	3	3	3
P. YC DELAY	VIDEO	4	4	4	4	4
S. YC DELAY		1	1	1	1	1
N. YC DELAY	MODE	4	4	4	4	4

VIDEO ADJUST1	RANGE	INITIAL DATA				
		SDI 21"1.7R	SDI 25" 1.3R	SDI 25" FLAT	SDI 29" 1.3R	SDI 30"
		A51KQJ63X01	A59KPR84X01	A59QDF891X002	A68QBT891X002 A68KVL74X01	A70QBZ791X001
RED CUTOFF	0~255	127	127	127	127	127
GREEN CUTOFF	0~255	127	127	127	127	127(FIX)
BLUE CUTOFF	0~255	127	127	127	127	127
RED DRIVE	0~255	127	127	127	127	127
GREEN DRIVE	0~255	127	127	127	127	127(FIX)
BLUE DRIVE	0~255	127	127	127	127	127
SUB BRIGHT	0~200	100	100	110	100	100
SUB CONTRAST	0~63	52	52	52	52	52
SUB COLOR	0~27	27	27	27	27	27

VIDEO ADJUST1	RANGE	INITIAL DATA				
		SDI 21"1.7R	SDI 25" 1.3R	SDI 25" FLAT	SDI 29" 1.3R	SDI 30"
		A51KQJ63X01	A59KPR84X01	A59QDF891X002	A68QBT891X002 A68KVL74X01	A70QBZ791X001
SUB TINT	0~100	30	30	30	30	30
BCL THRESHOLD	0~255	40	60	67	67	64
BCL GAIN	0~15	8	9	9	8	9
BCL TIME	0~15	13	7	13	13	7
TTX CONTRAST	0~255	90	70	90	90	70
P. BG YC DELAY	RF	3	3	3	3	3
P. DK YC DELAY		6	6	6	6	6
P.I YC DELAY		6	6	6	6	6
P.M YC DELAY		3	3	3	3	3
S. BG YC DELAY		3	3	3	3	3
S. DK YC DELAY		5	5	5	5	5
S.I YC DELAY		7	7	7	7	7
N.M YC DELAY		3	3	3	3	3
P. YC DELAY	VIDEO	4	4	4	4	4
S. YC DELAY		1	1	1	1	1
N. YC DELAY	MODE	4	4	4	4	4

VIDEO ADJUST 1	RANGE	FUNCTION
RED CUTOFF	0~255	Adjusts the gain red output of low light.
GREEN CUTOFF	0~255	Adjusts the gain green output of low light. Fix this agin to 127.
BLUE CUTOFF	0~255	Adjusts the gain blue output of low light.
RED DRIVE	0~255	Adjusts the red blue output of high light.
GREEN DRIVE	0~255	Adjusts the green output of high light. After "G2-Adjustment" and White Balance adjustments are complete, this data is fixed
BLUE DRIVE	0~255	Adjusts the gain blue output of high light.
SUB BRIGHT	0~200	Adjust sub brightness level to set the low luminance in Picture Standard mode.
SUB CONTRAST	0~63	Adjusts sub contrast level to set the high luminance in Pitture Standard mode. Set the value of sub contrast to near 50. The user control " contrast" depends on this value. User contrast=[sub cont x 2/100] If sub contrast data is 10, user contrast changes into 1/5 step
SUB COLOR	0~27	Adjusts sub color level to set the gain for color in Picture Standard mode.
SUB TINT	0~100	Adjusts the sub tint level of NTSC color system.
BCL THRESHOLD	0~255	Short for Beam Current Limit Threshold. Adjusts the current of CRT long term.
BCL GAIN	0~15	Beam current limit gain
BCL TIME	0~15	Adjusts BCL Time constant. Beam current limit actual time
TTX CONTRAST	0~255	Adjusts contrast on TTX picture.
YC DELAY	0~8	Compensates the time gap between color and luminance boundaries and cotrolls data difference by system(See table above)

Note 1. Beam Control Limit Characteristic

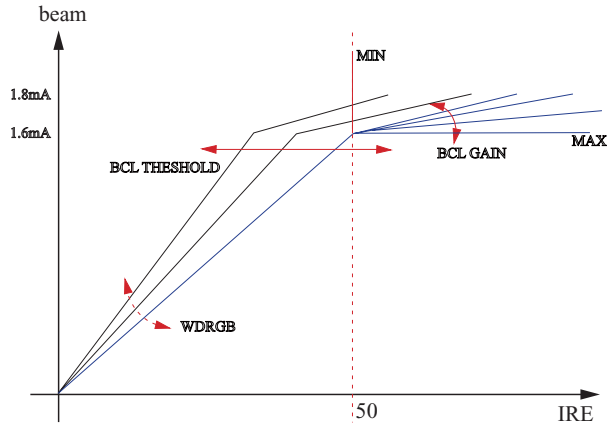
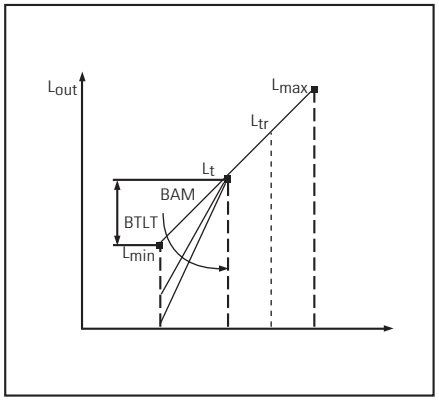


Table 3. YC Delay Adjustment Table

YC Delay	PAL				SECAM				NTSC	
	Def.	BG	DK	I	Def.	BG	DK	I	Def.	M
Value	4	3	6	6	1	3	5	7	4	0

4-8-2(E) VIDEO 2 ADJUST

OSD	RANGE	INITIAL VALUE	FUNCTION	REMARKS
B STRETCH-BTHR	0 ~ 55	50	Black stretch threshold	
B STRETCH-BTLT	0 ~ 15	8	Black stretch tilt position	
B STRETCH-BAM	0 ~ 31	4	Black stretch amount	
CORING	0 ~ 31	31	Luminance peaking filter coring	DIGITAL NR OFF VALUE
RGB BRIGHT	0 ~ 255	45	External RGB brightness	SCARTS MODEL ONLY
RGB CONTRAST	0 ~ 80	0	External RGB contrast	SCARTS MODEL ONLY
EHT TIME	0 ~ 15	3112B:0 3130Y:3	Electronics high tension time EHT vertical correction time(according to beam change)	VDP3130Y NO USED '0'
EHT VERTICAL	0 ~ 255	60	EHT compensation coefficent vertical	



4-8-2(F) VIDEO 3 ADJUST

ADD ITEM

OSD	RANGE	INITIAL VALUE	FUNCTION	REMARKS
PEAK THRESHOLD	0~255	255	White peak level threshold	Design factor
SOFT LIMIT SLOPE B	0~15	4	Refer to picture below	Design factor
HARD LIMIT	0~255	255		
PEAK VIDEO REF	0~4	0	White peak levelthrehold reference	Design factor
PEAK VIDEO GAIN	0~5	0	White peak level threshild gain	Design factor
ACC-REF(PAL/NTSC)	0~40	33	Auto color control gain(PAL/NTSC)	Picture standard color gain setting
ACCR(SECAM)	0~39	21	Auto color control gain(SECAM)	Picture standard color gain setting
Gain1(video	0~31	11	Velocity video gain	Not used(design factor)
Delay1(video)	0~15	3	Velocity video delay	Not used(design factor)
Velocity Limt	0~127	74	Velocity limit	Not used(design factor)
Velocity Delay	0~15	7	Velocity delay	Not used(design factor)
Velocity Coring	0~15	10	Velocity frequency coring	Not used(design factor)
RGB SHIFT	0~255	109	Adjust RGB input signal Horizontal position	Used to scarts model only. VDP3130Y:Not used
HB START	0~255	117	Horizontal blainking start	Picture right edge position SAG or cut problem countermeasure
HB STOP	0~255	168	Horizontal blainking stop	Picture left edge position SAG or cut problem countermeasure
2H Comb Filter	0~1	1	Comb filter on/off (0 : Comb fillter off 1 : Comb filtter on) VDP3108:No comb filter, VDP3112B/ VDP3130Y/VDP3120B:Comb Filter function present	OFF(0):Cross color and Dot crawl phenomenons happen. Detailed characteristics are a little good. ON(1): Cross color and Dot crawl characteristics are good, but Detaile characteristics aren't
NR OFF Value	0~10	0	Adjust Digital NR off value	Picture standard mode detail
Color Hys(SECAM)	0~255	166	Color killing hysteresys(SECAM)	0 ~ 155 Not used(SECAM NO COLOR)
Color Hys(PAL)	0~255	200	Color killing hysteresys(PAL)	

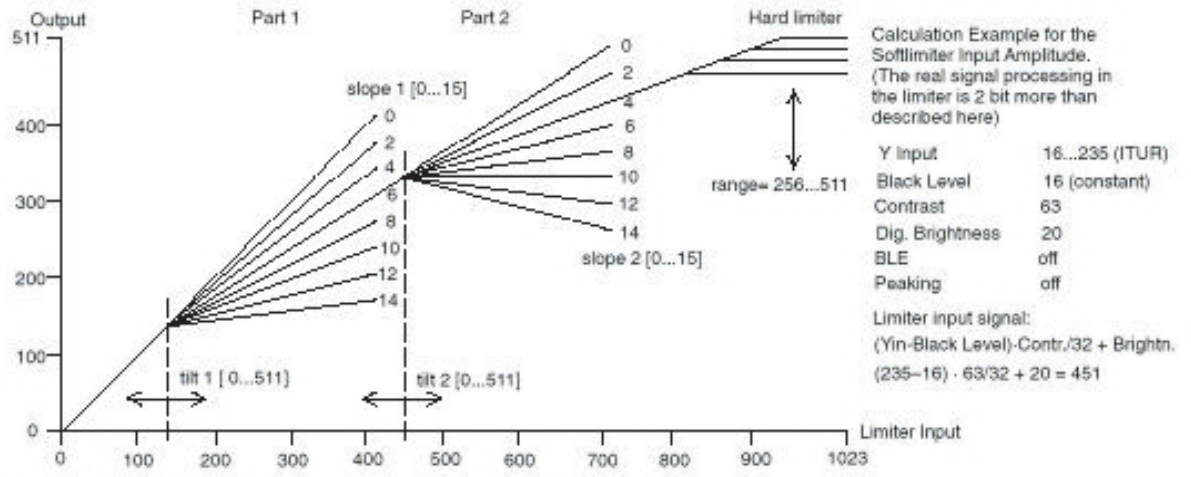


Fig. 2–17: Characteristic of soft limiter a and b and hard limiter

4-8-2(G) OPTION 1

Micom Spec : SIM-806EA

No.	ITEM(OSD)	Control	Description
1	Language	ESAsia	ENGLISH/VIETNAM/THAI/INDONESIA/MALAYSIA
2	Sound	A2/NICAM	A2 Stereo / Nicam Stereo Model
		Virtual Dolby	Virtual Dolby Model
		Mono	Mono Model
		Line-Stereo	Line stereo Model
3	CRT	4:3	Normal / Zoom / 16:9
		Wide	Wide CRT (16:9)
		Q(12.8:9)	Plus / Normal / Zoom / 16:9
		4:3-16:9	Normal / Zoom
		Q - 16:9	Plus / Normal / Zoom
4	AV Mode	1Scart	Built in 1 Scart Model
		2Scart	Built in 2 Scart Model
		2scart+S	Built in 2 Scart +SVHS JACK Model
		1RCA	Built in RCA 6P / RCA 4P Model
		2RCA	Built in RCA 9P Model
		2RCA+S	Built in RCA 9P + SVHS JACK Model
		2RCA+D	Built in RCA 9P + DVD JACK Model
		2RCA+S+D	Built in RCA 9P + SVHS JACK Model +DVD JACK Model
5	x-ray	On	X-ray detection function on
		Off	X-ray detection function off
6	Tilt Control	On	CRT Tilt control function on (wide / 29PF CRT)
		Off	CRT Tilt control function off
7	Auto FM	On	automatic change from NICAM to FM depends on NICAM error rate
		Off	automatic change from NICAM to FM depends on NICAM syncronization
8	PIP	Off	no PIP function
		1 - tuner	1 Tuner PIP function
		2 - tuner	2 Tuner PIP function
9	Txt Language	West Europe	English/German/Skandinavian/Italian French/Spainsh/Czech
		East Europe	Polish/Czech/Rumanian/Slovenian/Croatian/ French/Skandinavian/German/Italian
		Russian	Russian/Ukranian/Estonian/Czech/German/ Lettish/English
		Greek-Turkey	English/Turkey/Greek/French/Skandinavian/German/Spainsh/Italian
		Arabic	English/Arabic/French
		Farsi	English/Farsi/French
		Arab-Hebrew	Arabic/Hebrew
10	LNA	On	Built in LNA Tuner
		Off	Built in Normal Tuner
11	Equalizer	On	Include in Equalizer function (MSP34X0D)
		Off	Without Equalizer function (MSP34X5D)
12	High deviate	On	High deviation mode on MSP34XX
		Off	Normal mode on MSP34XX
13	TTX On/OFF	On	TTX Model
		Off	W/O-TTX Model
14	AV by CH Key	On	Without Video Pannel Key
		Off	With Video Pannel Key

4-8-2(H) OPTION 2

Micom Spec : SIM-806MA

No.	ITEM(OSD)	Control	Description
1	Language	Arab	English/Arab/French/Pakistan
		Iran	English/Persian/French/Turkey
		Libya	English/Libya/French
		CIS	English/Russia
2	Sound	A2/NICAM	A2 Stereo / Nicam Stereo Model
		Virtual Dolby	Virtual Dolby Model
		Mono	Mono Model
		Line-Stereo	Line stereo Model
3	CRT	4:3	Normal / Zoom / 16:9
		Wide	Wide CRT (16:9)
		Q(12.8:9)	Plus / Normal / Zoom / 16:9
		4:3-16:9	Normal / Zoom
		Q - 16:9	Plus / Normal / Zoom
4	AV Mode	1Scart	Built in 1 Scart Model
		2Scart	Built in 2 Scart Model
		2scart+S	Built in 2 Scart +SVHS JACK Model
		1RCA	Built in RCA 6P / RCA 4P Model
		2RCA	Built in RCA 9P Model
		2RCA+S	Built in RCA 9P + SVHS JACK Model
		2RCA+D	Built in RCA 9P + DVD JACK Model
		2RCA+S+D	Built in RCA 9P + SVHS JACK Model + DVD JACK Model
5	x-ray	On	X-ray detection function on
		Off	X-ray detection function off
6	Tilt Control	On	CRT Tilt control function on (wide / 29PF CRT)
		Off	CRT Tilt control function off
7	Auto FM	On	automatic change from NICAM to FM depends on NICAM error rate
		Off	automatic change from NICAM to FM depends on NICAM syncronization
8	PIP	Off	no PIP function
		1- tuner	1 Tuner PIP function
		2 - tuner	2 Tuner PIP function
9	Txt Language	West Europe	English/German/Skandinavian/Italian/French/Spainsh/Czech
		East Europe	Polish/Czech/Rumanian/Slovenian/Croatian/ French/Skandinavian/German/Italian
		TRussian	Russian/Ukranian/Estonian/Czech/German/Lettish/English
		Greek-Turkey	English/Turkey/Greek/French/Skandinavian/German/Spainsh/Italian
		Arabic	English/Arabic/French
		Farsi	English/Farsi/French
		Arab-Hebrew	Arabic/Hebrew
10	LNA	On	Built in LNA Tuner
		Off	Built in Normal Tuner
11	Equalizer	On	Include in Equalizer function (MSP34X0D)
		Off	Without Equalizer function (MSP34X5D)
12	High deviate	On	High deviation mode on MSP34XX
		Off	Normal mode on MSP34XX
13	TTX On/OFF	On	TTX Model
		Off	W/O-TTX Model
14	AV by CH Key	On	Without Video Pannel Key
		Off	With Video Pannel Key

4-8-2(I) OPTION 3

Micom Spec : SIM-806EI/SIM-806C

No.	ITEM(OSD)	Control	Description
1	SOUND	A2/NICAM	A2 Stereo / Nicam Stereo Model
		Virtual Dolby	Virtual Dolby Model
		Mono	Mono Model
		Line-Stereo	Line stereo Model
2	CRT	4:3	Normal / Zoom / 16:9
		Wide	Wide CRT (16:9)
		Q(12.8:9)	Plus / Normal / Zoom / 16:9
		4:3-16:9	Normal / Zoom
		Q - 16:9	Plus / Normal / Zoom
3	A/V Mode	1Scart	Built in 1 Scart Model
		2Scart	Built in 2 Scart Model
		2scart+S	Built in 2 Scart +SVHS JACK Model
		1RCA	Built in RCA 6P / RCA 4P Model
		2RCA	Built in RCA 9P Model
		2RCA+S	Built in RCA 9P + SVHS JACK Model
		2RCA+D	Built in RCA 9P + DVD JACK Model
		2RCA+S+D	Built in RCA 9P + SVHS JACK Model + DVD JACK Model
4	x-ray	On	X-ray detection function on
		Off	X-ray detection function off
5	Tilt Control	On	CRT Tilt control function on (wide / 29PF CRT)
		Off	CRT Tilt control function off
6	Auto FM	On	automatic change from NICAM to FM depends on NICAM error rate
		Off	automatic change from NICAM to FM depends on NICAM syncronization
7	PIP	Off	no PIP function
		1 - tuner	1 Tuner PIP function
		2 - tuner	2 Tuner PIP function
8	LNA	On	Built in LNA Tuner
		Off	Built in Normal Tuner
9	Equalizer	On	Include in Equalizer function (MSP34X0D)
		Off	Without Equalizer function (MSP34X5D)
10	High deviate	On	High deviation mode on MSP34XX
		Off	Normal mode on MSP34XX
11	AKB	On	AKB Function On
		Off	AKB Function Off
12	AV by CH Key	On	Without Video Pannel Key
		Off	With Video Pannel Key
13	Woofer	On	Woofer Function ON
		Off	Woofer Function OFF

India only

4-8-2(J) G2 - ADJUSTMENT

❑ **When using RGB AMP STV-5109**

G2 ADJUST	RANGE	CRT				
		TSB 21-FLAT	LG-CPT 21-FLAT	SDI 21" FALT	SDI 14"	SDI 15" FLAT
		A51LSH196X03(+380) A51LSH198X03(-250)	A51QDJ279X14	A51QDX991X001	A34KQV42X	A36QDT351X
MRC R G B	NO CONTROL	110	110	110	110	110
MRWDG	NO CONTROL	110	110	110	110	110
IBRM	0~255	225	225	220	205	215
WDRV	0~255	45	45	35	45	45
CDL	0~255	185	175	200	100	160
COL R G B	0~255	75	165	145	100	80
COL G	0~255	75	165	145	100	80
COL B	0~255	75	165	145	100	80

G2 ADJUST	RANGE	CRT				
		SDI 21" 1.7R	SDI 25" 1.3R	SDI 25" FLAT	SDI 29" 1.3R	SDI 30"
		A51KQJ63X01	A59KPR84X01	A59QDF891X002	A68QBT891X002 A68KVL74X01	A70QBZ791X001
MRC R G B	NO CONTROL	110	110	110	110	110
MRWDG	NO CONTROL	110	110	110	110	110
IBRM	0~255	215	210	205	200	200
WDRV	0~255	45	35	45	45	45
CDL	0~255	160	220	150	190	180
COL R G B	0~255	80	130	140	150	130
COL G	0~255	80	130	140	150	130
COL B	0~255	80	130	140	150	130

❑ **When using RGB AMP TDA6101Q**

G2 ADJUST	RANGE	CRT				
		TSB 21-FLAT	LG-CPT 21-FLAT	SDI 21" FALT	SDI 14"	SDI 15" FLAT
		A51LSH196X03(+380) A51LSH198X03(-250)	A51QDJ279X14	A51QDX991X001	A34KQV42X	A36QDT351X
MRC R G B	0~255	110	110	110	110	110
MRWDG	0~255	110	110	110	110	110
IBRM	0~255	220	230	220	180	220
WDRV	0~255	35	35	35	35	35
CDL	0~255	230	230	230	100	200
COL R G B	0~255	65	65	65	100	150
COL G	0~255	65	65	65	100	150
COL B	0~255	65	65	65	100	150

G2 ADJUST	RANGE	CRT				
		SDI 21" 1.7R	SDI 25" 1.3R	SDI 25" FLAT	SDI 29" 1.3R	SDI 30"
		A51KQJ63X01	A59KPR84X01	A59QDF891X002	A68QBT891X002 A68KVL74X01	A70QBZ791X001
MRC R G B	NO CONTROL	110	110	110	110	110
MRWDG	NO CONTROL	110	110	110	110	110
IBRM	0~255	220	220	210	220	210
WDRV	0~255	35	35	35	35	35
CDL	0~255	230	230	150	180	160
COL R G B	0~255	65	65	150	65	130
COL G	0~255	65	65	150	65	130
COL B	0~255	65	65	150	65	130

G2-ADJUST	RANGE	DESCRIPTION
MRC R G B	0~255	Measure of Cutoff Gain, the data comes when adjusting the screen voltage. It is set to the point where changing red into green. RGB Output. By sending the standard pulse data, it receives feedback from RGB drive. It is low light data.
MRWDG	0~255	Measure of Green of Drive Gain, the data that indicates the value of High Light. It has the same principle as MRC R G B
IBRM	0~255	Internal brightness measurement. For AKB, an 1-chip sends RGB standard pulse and sets the level of the standard pulse.
WDRV	0~255	White drive measure control. IBRM is the standard pulse of low light. WDRV is the standard pulse of high light.
CDL	0~255	Cathode drive level. Sets the standard luminance of high light different by CRT and inch. This uses the same register as the RED//GREEN/BLUE drive in video adjust-1.
COL R G B COL G COL B	0~255	Cutoff level R. Uses the same register as the RED cutoff in Video adjust-1. Cutoff level G. Uses the same register as the GREEN cutoff in Video adjust-1. Cutoff level B. Uses the same register as the BLUE cutoff in Video adjus

4-8-2(K) OTHERS

OTHERS	RANGE	Application CRT				
		TSB CPT 21-FLAT	LG-CPT 21-FLAT	SDI 21" FALT	SDI 15" FLAT	SDI 21" 1.7R
		A51LSH196X03(+380) A51LSH198X03(-250)	A51QDJ279X14	A51QDX991X001	A36QDT351X	A51KQJ63X01
VSU (VDP3130Y)	96~111	100	100	100	100	98
(VDP3112B)		100	110	108	110	108
H QEW	-30~30	0	0	0	0	0
H ZOOM Parabola	-30~30	8	8	25	8	8
H 16:9 Parabola	-30~30	-10	-18	-30	-18	-10
TTX H Shift	-30~30	0	0	0	0	0
Mono Sound System	BG	BG	BG	BG	BG	BG
V Slice Level	0~3	2	2	2	2	2
Melody Volume	0~20	5	5	5	5	5
AKB	ON/OFF	ON	ON	ON	ON	ON
TTX LIST PRIOR	ON/OFF	OFF				

OTHERS	RANGE	Application CRT			
		SDI 25" 1.3R	SDI 25" FLAT	SDI 29" 1.3R	SDI 30"
		A59KPR84X01	A59QDF891X002	A68QBT891X002 A68KVL74X01	A70QBZ791X001
VSU (VDP3130Y)	96~111	98	100	98	110
(VDP3112B)		108	100	108	110
H QEW	-30~30	0	0	0	-7
H ZOOM Parabola	-30~30	0	-12	0	-10
H 16:9 Parabola	-30~30	0	0	-10	0
TTX H Shift	-30~30	0	0	0	0
Mono Sound System	BG	BG	BG	BG	BG
V Slice Level	0~3	2	2	2	2
Melody Volume	0~20	5	5	5	5
AKB	ON/OFF	OFF	ON	OFF	OFF
TTX LIST PRIOR	ON/OFF				

OTHERS	RANGE	DESCRIPTION
VSU	96~111	Vertical Setup Time. Delays the vertical sync to solve the jitter of OSD and TTX .
		Check OSD while varying 96 111 step by step and an 1H line moves at two points.
		If the value is set at the first point or second point, an OSD jitter may happen. Also, if the value is set between the first and second points, a TTX jitter may happen. So, the value of VSU should be set after giving some magines (three steps).
		For example, OSD moves as much as 1H-line when changing data 98 to 99 and 106 to 107, respectively.
		At this time, VSU should be set to 110 by allowing for the margin of three steps (If the value within 99 to 106 is set, a jitter may happens in TTX mode.)
H QEW	-30~30	Short for Q-CRT HORIZNOTAL EAST WEST, data used only for Q-CRT MODEL. In NORMAL mode, the horizontal picture size is within 5 5.5.
		In Q mode, the horizontal picture size is within 6.5 7. This H QEW function sets the gap between horizontal picture size in NORMAL mode and horizontal picture size in Q mode.
H ZOOM Parabola	-30~30	Corrects the vertical linearity in Zoom mode of P-SIZE. The data differs according to CRT (see data above)
H 16:9 Parabola	-30~30	Corrects the vertical linearity in 16:9 mode of P-SIZE. The data differs according to CRT (see data above).
TTX H Shift	-30~30	Horizontal blanking pulse duty determines the position of TTX and FBT determines horizontal blanking pulse duty.
		Because FBT depends on model, this TTX H Shift allows the micom to set the start position of pixel to prevent the TTX screen from being shifted.
Mono Sound System	BG	Not Used
V Slice Level	0~3	Allows the sync slice level of sync separate block to be changed. This item corresponds the case
		where a vertical bouncing happens according to signal conditions by area
		(overmodulation, especially). 0: 100% 1: 90% 2: 75% 3: 60%
Melody Volume	0~20	Sets the level of melody volume in Picture ON. Differently controlled according to buyer and area.
AKB	ON/OFF	Short for Auto Kined Bias, a function that maintains uniformity in brightness and white balance by
		automatically correcting the variance of brightness and white balance according to temperature
		and characteristics of AMP in the CRT drive. It is designed to be turned ON/OFF so that the AKB
		line can't be seen at top when a DY of lower deflection sensitivity is used
TTX LIST PRIORITY	ON/OFF	TTX mode has two different types; List and FLOF. When swtiching into the TTX mode, this function
		determines which type has priorty.

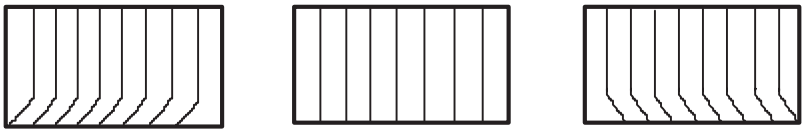
Table 5.

VDP Version		Remark
OSD	Description	
B	Chroma IC is VDP3108B/VDP3112B/VDP3120B	Normal Version IC
Y	Chroma IC is VDP3130Y/VDP3130Y-B2	DVD Version IC

Table 6.

NO	Y-ADD			
	ITEM(OSD)	RANGE	INITIAL VALUE	FUNCTION
1	H BOW	-128~127	0	Horizontal bow control: Actually doesn't operate (see figure blow)
2	H ANGLE	-128~127	0	Horizontal angle control: Actually doesn't operate (see figure below)
3	H DSCC	1~7	2	Discharge sample counter for deflection retrace
4	DVD TINT CONTROL	0~1	1	Determines the presence of use of DVD SUB TINT control. When VDP3130Y B1 is used, it is set to1 and When VDP3130Y B2 is used, it is set to 0.
5	DVD SUB TINT	0~100	25	After the NTSC DVD signal is input, this function set a proper phase in Picture Standard mode. Initial Value = 25
6	EHT OFFSET	0~535	0	EHT Compensation east/west offset coefficent (Not used)
7	EHT HORIZONTAL	-128~127	0	EHT Compensation east/west gain coefficent (Not used)
8	VDPY B2-VERSION	ON/OFF	ON	Switches VDP3130Y IC version On/Off. When VDP3130Y B2-version is used, it is set ON. When B1-version is used, it is set OFF.

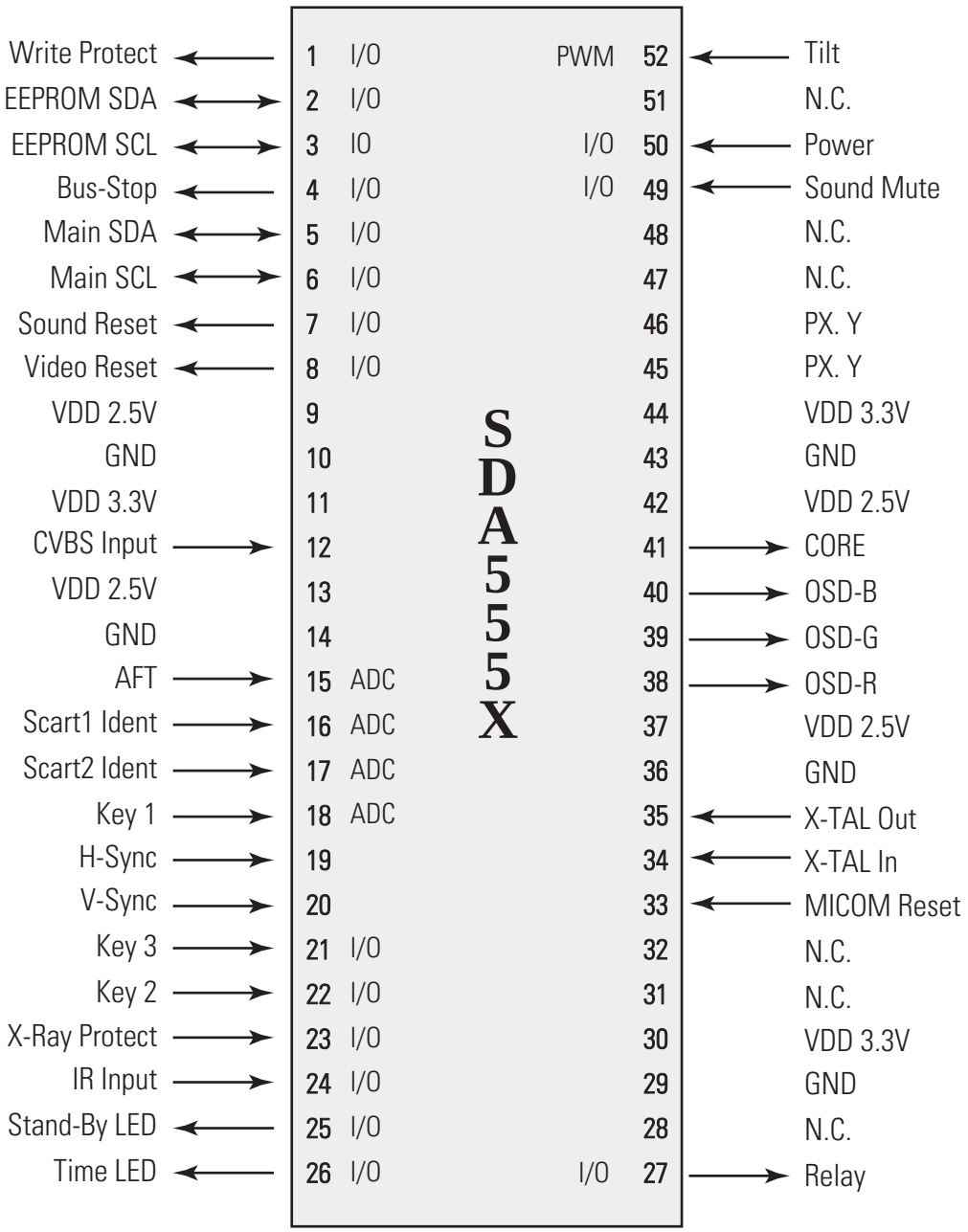
① H-BOW



② H-ANGLE

4-9 MICOM

4-9-1 Pin Layout



4-9-2 Pin Assignment Specification

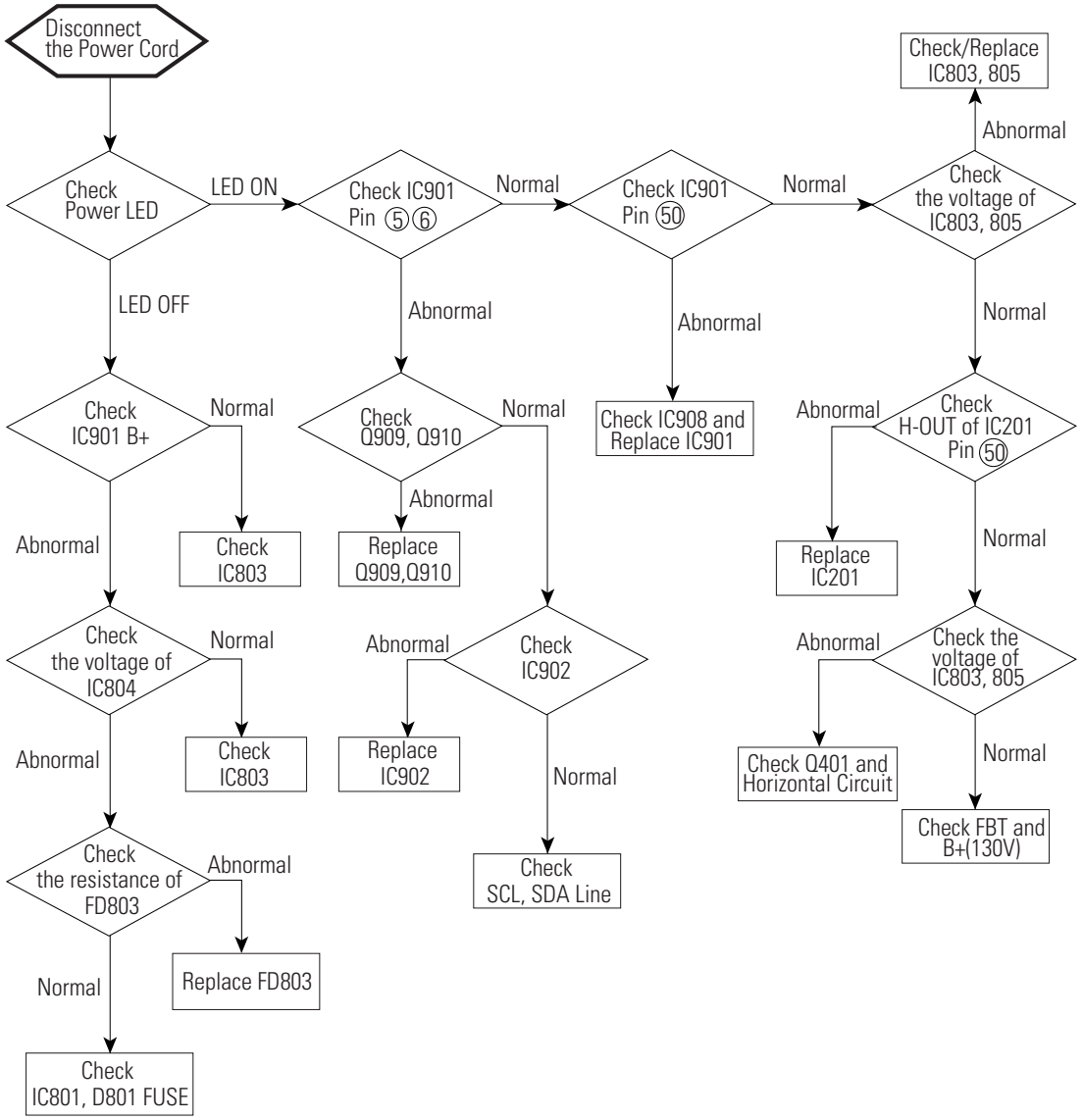
PIN NO	FUNCTION	ASSIGN	IN/OUT	ACTIVE H/L	DESCRIPTION
1	I/O	Write Protect	Out	Low	EEPROM Write Protection
2	I/O	ROM SDA	I/O		EEPROM Serial Data Line
3	I/O	ROM SCL	I/O		EEPROM Serial Clock Line
4	I/O	Bus Stop	In	Low	Disable Micom IIC
5	I/O	Main SDA	I/O		Peripheral IC Serial Data Line
6	I/O	Main SCL	I/O	Low	Peripheral IC Serial Clock Line
7	I/O	Sound Reset	Out	Low	MSP IC Initial Control
8	I/O	Video Reset	Out		VDP IC Initial Control
9	Vdd	VDD 2.5V			
10	GND				
11	Vdd	VDD 3.3V			
12	CVBS	CVBS Input	In		TTX CVBS Input
13	Vdd	VDD 2.5V			Analog B+
14	GND				Analog Ground
15	ADC	AFT	In		Auto Fine Tuning Control
16	ADC	SC1-ID	In		Scart1 Ident
17	ADC	SC2-ID	In		Scart2 Ident
18	ADC	Key1	In		Key1 Input
19	HS	H-Sync	In		Horizontal Sync Input
20	VS	V-Sync	In		Vertical Sync Input
21	I/O	Key3	In		Key3 Input
22	I/O	Key2	In		Key2 Input
23	I/O	X-Ray	In		X-Ray Protection
24	I/O	IR-In	In		Remocon Signal Input
25	I/O	STD-LED	Out		LED Drive Output(Red)
26	I/O	TIM-LED	Out		LED Drive Output(Green)

4-9-2 Pin Assignment Specification (Continued)

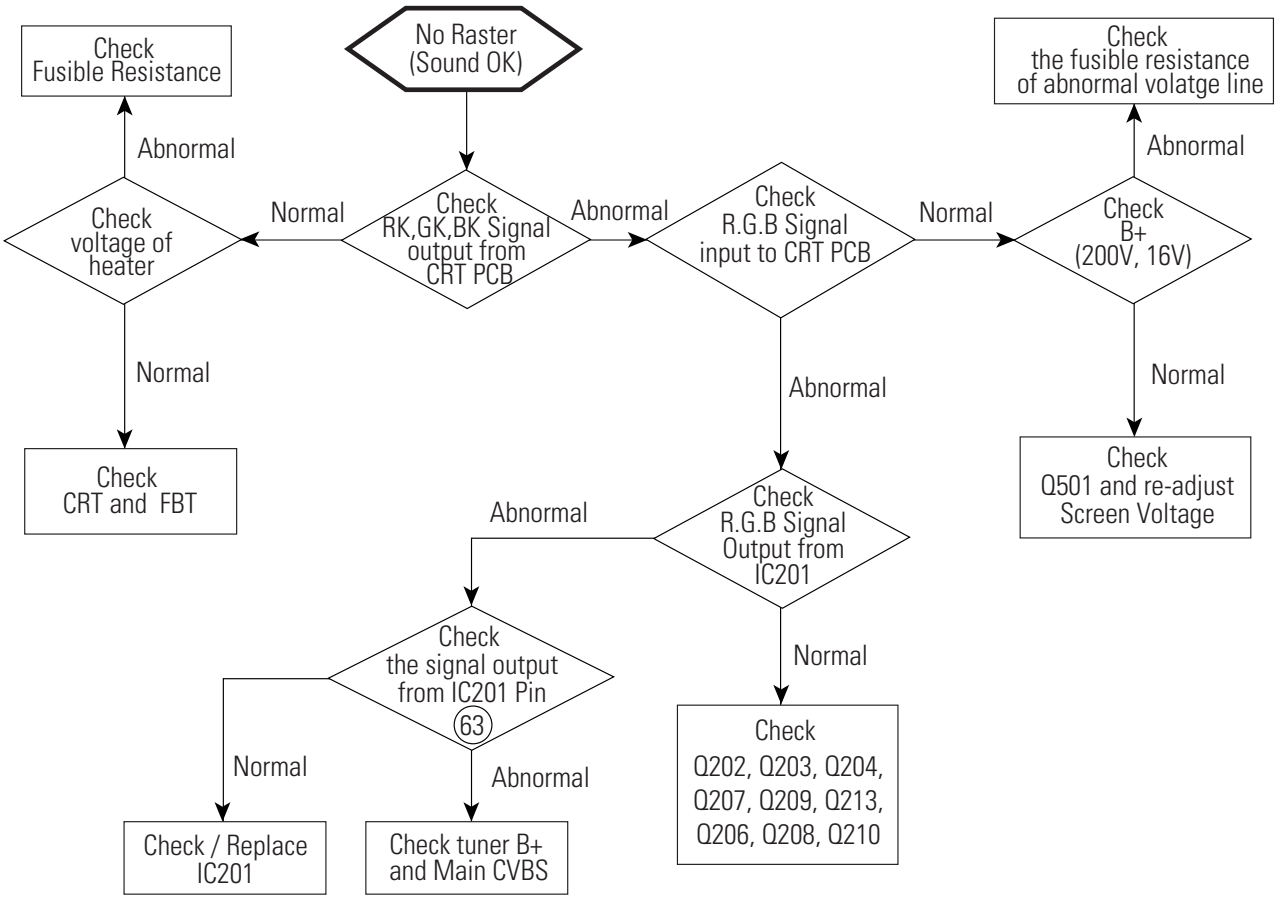
PIN NO	FUNCTION	ASSIGN	IN/OUT	ACTIVE H/L	DESCRIPTION
27	I/O	Relay	Out	Low	Activate Degaussssing Coil
28	N.C.				Not Used (Programmed Gound Level)
29	GND				Analog Ground
30	Vdd	VDD 3.3V			Not Used (Programmed Gound Level)
31	N.C.				Not Used (Programmed Gound Level)
32	N.C.				Micom Hardware Reset
33	Reset	Reset	In	Low	Crystal Oscillation Input
34	X-In	X-TAL In	In	6MHz	Crystal Oscillation Output
35	X-Out	X-TAL Out	Out	6MHz	Analog Ground
36	GND				Analog B+
37	Vdd	VDD 2.5V			OSD/TTX Output (Red)
38	R	OSD-R	Out		OSD/TTX Output (Green)
39	G	OSD-G	Out		OSD/TTX Output (Blue)
40	B	OSD-B	Out		Fast Blank/Half Contrast Output
41	COR	CORE	Out		
42	Vdd	VDD 2.5V			
43	GND				
44	Vdd	VDD 3.3V			
45	I/O	PX.Y	In		When The Caption Function Adopted, Used.
46	I/O	PX.Y	Out		
47	N.C.				Not Used (Programmed Gound Level)
48	N.C.				
49	I/O	S-Mute	Out	High	Sound Amp Mute
50	I/O	Power	Out	Low	Picture On/Off Control
51	N.C.				Not Used (Programmed Gound Level)
52	I/O				

5. Troubleshooting

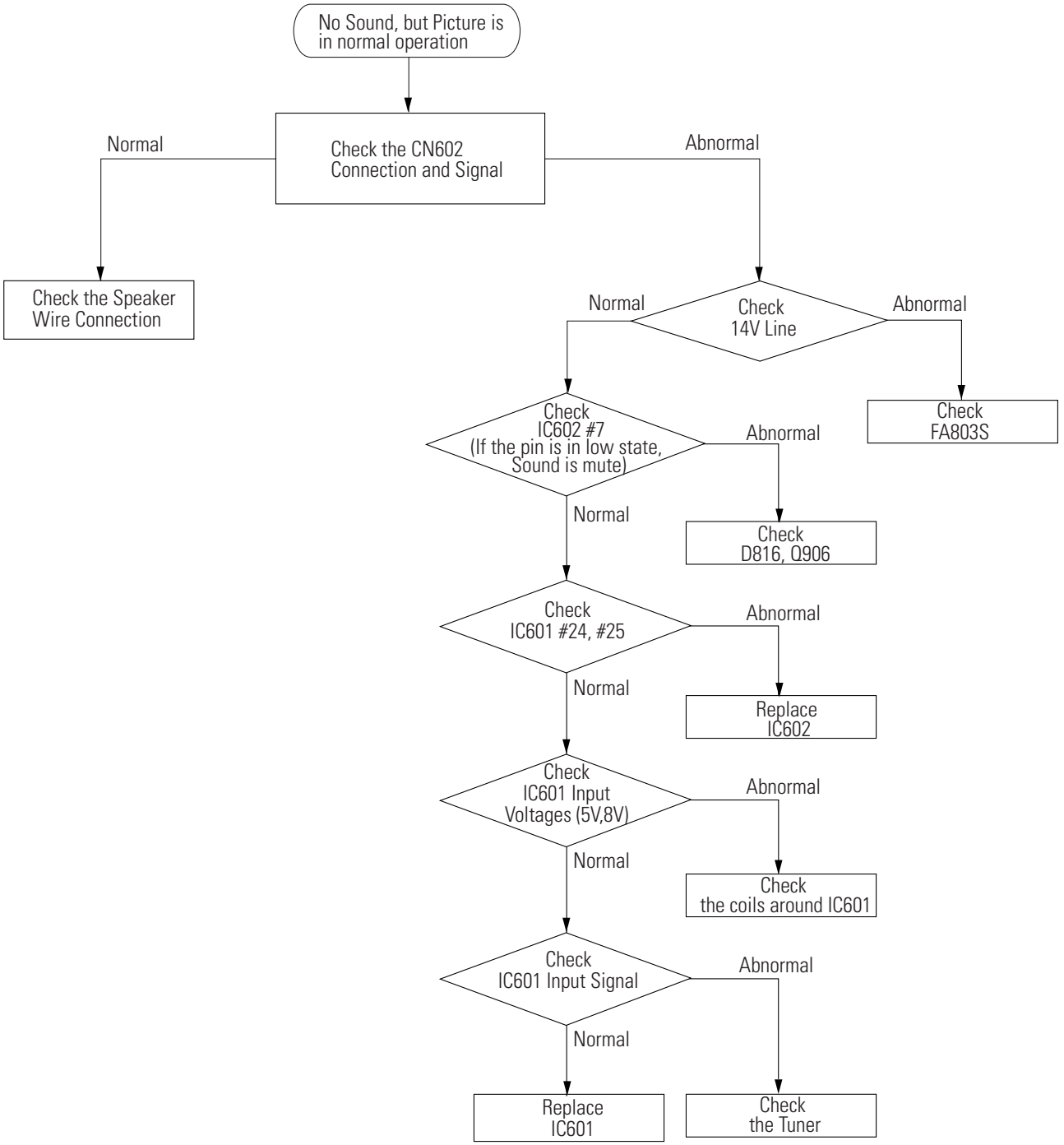
5-1 No Power



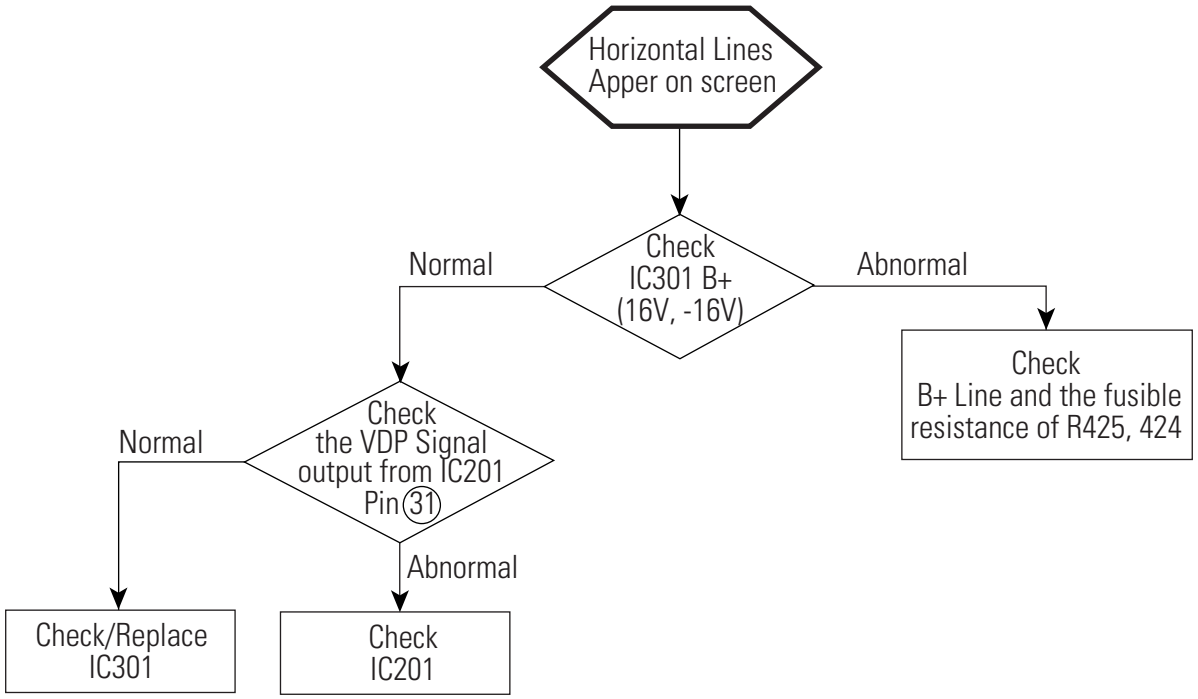
5-2 No Raster (Sound OK)



5-3 No Sound

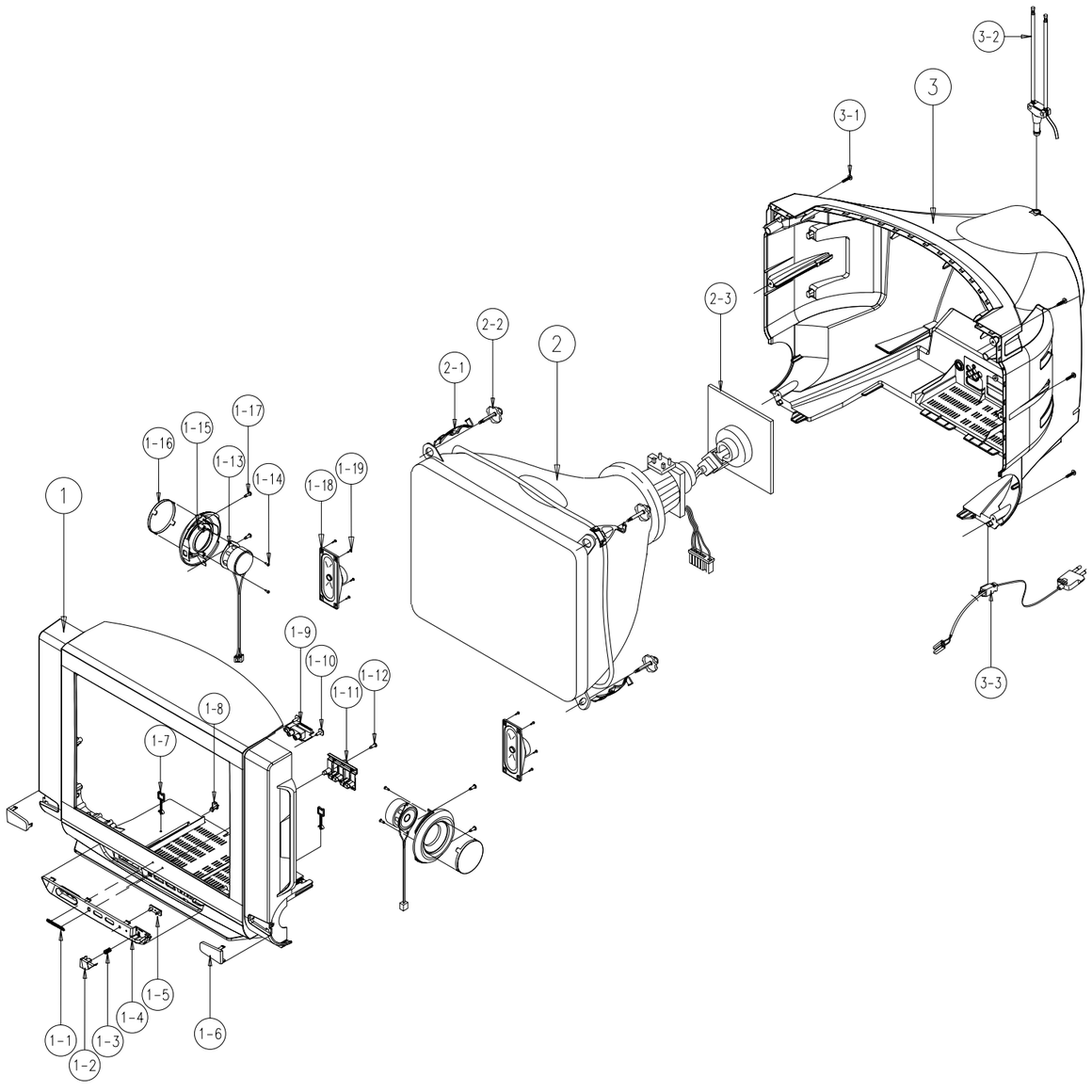

No Sound, but Picture is in normal operation
Check the CN602 Connection and Signal
Normal
Abnormal
Check the Speaker Wire Connection
Check 14V Line
Normal
Abnormal
Check FA803S
Check IC602 #7 (If the pin is in low state, Sound is mute)
Abnormal
Check D816, Q906
Normal
Check IC601 #24, #25
Abnormal
Replace IC602
Normal
Check IC601 Input Voltages (5V,8V)
Abnormal
Check the coils around IC601
Normal
Check IC601 Input Signal
Abnormal
Check the Tuner
Normal
Replace IC601

5-4 Horizontal Lines Appear on screen



6. Exploded View & Parts List

6-1 CS21S8NAS/MUR



No	Code No	Description;Specification	Q'ty	Remark	S.N.A
1	AA64-02233A	CABINET-BACK;21S8,HIPS,HB,G4309	1		
1-1	AA64-70123B	BADGE-BRAND;ALL,AL,8.5,L50,BLK,SILVER,SA	1		
1-2	AA64-02235B	KNOB POWER;21S8,ABS,HB,G3676,GDM3130	1		
1-3	AA61-60003J	SPRING ETC-CS;-,SUS304,-,-,OD6,N7,OD6,-,	1	KNOPOW	
1-4	AA64-02234B	DECORATION-CONTROL;21S8,HIPS,HB,G4309,GD	1		
1-5	AA64-02237A	WINDOW-RMC,LED;21S8,ACRYL,CLR	1		
1-6	AA64-02239D	DECORATION-TWEETER,R;21S8 NEW,HIPS,HB,G4	1		
1-7	AA65-00011C	CLAMPER CORE-WIRE;ALL MODEL,NYLON 66,V2,	1		
1-8	AA61-40113A	STOPPER-PCB;501H,HIPS,-,-,HB,NTR,-	1		
1-9	AA95-01784V	ASSY SUB-PCB,A/V FRONT;DP,21A8,KS2AAA95-	1		
1-10	6006-001095	SCREW-ASS'Y TAPT;WP,BH,+,M4,L12,ZPC(YEL)	2	AV+CF	
1-11	AA64-02236B	KNOB CONTROL;21S8,ABS,HB,G3676,GDM3130	1		
1-12	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	1	T0081	
1-13	AA91-00862B	ASSY HOLDER SPK;,4OHM,µø≥≤æΔSOUND∞≠¡∂«‹,	2		
1-14	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	2	T0081	
1-15	AA61-00870B	HOLDER-TWEETER;21S8,HIPS HB,G4309,SV012P	2		
1-16	AA64-02238B	GRILLE-TWEETER;21S8,SECC,T0.5,GDM-S130	2		
1-17	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	2	SPK+HT	
1-18	AA91-00861B	ASSY HOLDER SPK;,8OHM,15W,21S8	1		
1-19	6002-000512	SCREW-TAPPING;RH,+,2,M4,L12,ZPC(BLK),SWR	4	SPK+HT	
2	AA03-00302A	CRT COLOR;A51QDX992X001(NF),+380MG,1.85M	1		
2-1	AA65-00009B	CLAMPER CORE-D,COIL;21A8,NYLON 66,V0,-,-	4	D-COIL	
2-2	AA60-10050R	SCREW-ASSY;-,SWRCH18A,M5,L31.5,HH,+,WC,-	4	CRT+CF	
2-3	3704-001105	SOCKET-CRT;11P,20PI,26.5PI,NI,-	1	V999S	
3	AA64-02647D	CABINET BACK;DP,21S8,HB,AA64-02233A(12KG	1		
3-1	AA60-10050T	SCREW-TAPPING;-,SWRCH18A,M4,L20,RH,+,2S,	6	CB+CF	
3-2	AA42-00003A	ANT ROD;-,3S,720mm,ABS,UL/CSA,-	1		
3-3	AA96-00697A	ASSY POWER CORD;,KKP419C,CP2/NO(4.0),H/C	1		

You can search for the updated part code through ITSELF web site.
URL : http://itself.sec.samsung.co.kr

7. Electrical Parts List

7-1 CS21S8NAS/MUR

Level	Loc. No.	Code No.	Description ; Specification	Remark
			ASSY COVER REAR	
1		AA90-02009W	ASSY COVER REAR;CS21S8NAS/MUR	
2		AA60-00091J	SPACER-FELT;-,FELT,330X10,-,-,BLK,T0.5,-	
2		AA64-00892F	INLAY-BACK;D2,D3,PS SHEET,T0.3,-,-,BLK,R	
2		AA64-02647D	CABINET BACK;DP,21S8,HB,AA64-02233A(12KG	
3		0203-001269	TAPE-OPP MASKING;#301,T0.06,W75,L50000,N	
3		AA64-02233A	CABINET-BACK;21S8,HIPS,HB,G4309	
3	800	AA69-01410A	MASTER CARTON;,CB DW-3,100,100,100,YEL	
3		AA69-01559U	PAD;,PS,660,475,T18	
3		AA69-01897D	BAG-VINYL;,HDPE T0.02,1400,1400	
3		AA69-01897E	BAG-VINYL;,HDPE T0.02,1400,2100	
3		AA69-01948A	PAD-TYPE;,SW-2,805,625	
			ASSY COVER FRONT	
1		AA90-04489J	ASSY COVER FRONT;CS21S8NAS/MUR	
2	C/F	0203-001290	TAPE-OPP MASKING;ANT 100C,T0.073,W30,L50	
2	SPK+HT	6002-000512	SCREW-TAPPING;RH,+,2,M4,L12,ZPC(BLK),SWR	
2	CF+KC	6002-000514	SCREW-TAPPING;RH,+,2,M4,L15,ZPC(BLK),SWR	
2	HTW+CF	6002-000522	SCREW-TAPPING;TH,+,2,M4,L15,ZPC(BLK),SWR	
2	SPK+CF	6006-001095	SCREW-ASS'Y TAPT;WP,BH,+,M4,L12,ZPC(YEL)	
2	AV+CF	6006-001095	SCREW-ASS'Y TAPT;WP,BH,+,M4,L12,ZPC(YEL)	
2	CRT+CF	AA60-10050R	SCREW-ASSY;-,SWRCH18A,M5,L31.5,HH,+,WC,-	
2	CB+JAC	AA60-10050T	SCREW-TAPPING;-,SWRCH18A,M4,L20,RH,+,2S,	
2	CB+CF	AA60-10050T	SCREW-TAPPING;-,SWRCH18A,M4,L20,RH,+,2S,	
2		AA64-02670A	KNOB CONTROL;DP,21S8,AA64-02236B	
3		0203-001269	TAPE-OPP MASKING;#301,T0.06,W75,L50000,N	
3		AA64-02236B	KNOB CONTROL;21S8,ABS,HB,G3676,GDM3130	
3	109	AA69-01402A	PAD-PLATE;,CB DW-2,YEL,100,100	
3	468	AA69-01410A	MASTER CARTON;,CB DW-3,100,100,100,YEL	
2	D-COIL	AA65-00009B	CLAMPER CORE-D,COIL;21A8,NYLON 66,V0,-,-	
2		AA91-00861B	ASSY HOLDER SPK;,8OHM,15W,21S8	
2		AA91-00862B	ASSY HOLDER SPK;,4OHM,µø≥≤æΔSOUND∞≠¡∂«,	
2		AA91-00983A	ASSY-HOLDER TWEETER;DP,HB G4309,SV012P,2	
3		AA61-00870B	HOLDER-TWEETER;21S8,HIPS HB,G4309,SV012P	
3		AA64-02238B	GRILLE-TWEETER;21S8,SECC,T0.5,GDM-S130	
2		AA91-01008A	ASSY CABINET FRONT;DP,21S8 PAL,SV012P+GD	
3	FRONT	0203-001085	TAPE-DOUBLE FACE;#4929,T0.64,W12,-,BLK	
3		AA60-00091F	SPACER-FELT;-,FELT,150X10,-,-,BLK,T0.5,-	
3		AA61-40113A	STOPPER-PCB;501H,HIPS,-,-,HB,NTR,-	
3	KNOPOW	AA61-60003J	SPRING ETC-CS;-,SUS304,-,-,OD6,N7,OD6,-,	
3		AA64-02668B	CABINET-FRONT;DP,21S8,AA64-02232D	
3		AA64-02234B	DECORATION-CONTROL;21S8,HIPS,HB,G4309,GD	
3		AA64-02235B	KNOB POWER;21S8,ABS,HB,G3676,GDM3130	
3		AA64-02237A	WINDOW-RMC,LED;21S8,ACRYL,CLR	
3		AA64-70123B	BADGE-BRAND;ALL,AL,8.5,L50,BLK,SILVER,SA	
3		AA65-00011C	CLAMPER CORE-WIRE;ALL MODEL,NYLON 66,V2,	
3		AA65-30105C	CLAMPER CORE-WIRE;ALL MODEL,NYLON 66,V2,	
3		AA64-02671B	DECORATION-TWEETER,L;DP,21S8,AA64-02239C	
4		0203-001269	TAPE-OPP MASKING;#301,T0.06,W75,L50000,N	
4		AA61-01109H	CASE-PP BOX;,PP,385,310,35	
4	BOX	AA63-70002A	SHEET;-,PE FOAM,T1.0,-,-,-,50G	
4		AA64-02239C	DECORATION-TWEETER,L;21S8 NEW,HIPS,HB,G4	
4	166	AA69-01401A	PAD-PLATE;,CB SW-2,YEL,100,100	
4	811	AA69-01410A	MASTER CARTON;,CB DW-3,100,100,100,YEL	
3		AA64-02671C	DECORATION-TWEETER,R;DP,21S8,AA64-02239D	
4		0203-001269	TAPE-OPP MASKING;#301,T0.06,W75,L50000,N	
4		AA61-01109H	CASE-PP BOX;,PP,385,310,35	
4	BOX	AA63-70002A	SHEET;-,PE FOAM,T1.0,-,-,-,50G	
4		AA64-02239D	DECORATION-TWEETER,R;21S8 NEW,HIPS,HB,G4	
4	166	AA69-01401A	PAD-PLATE;,CB SW-2,YEL,100,100	
4	811	AA69-01410A	MASTER CARTON;,CB DW-3,100,100,100,YEL	
			ASSY CHASSIS	
1		AA91-06212H	ASSY CHASSIS;,KS2A	
2		AA91-06904A	ASSY MISC-CHASSISPACK;2	
3		AA68-02713A	LABEL-AUTO;A/P,15,35,WHITE,ALL MODEL	
3		AA94-12299J	ASSY PCB MAIN;,KS2A	
4		0202-000008	SOLDER-WIRE;S63S-W3.0,S63S,D3,63Sn/37Pb,	
4		0202-000187	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb	
4		0202-000188	SOLDER-BAR;S63S-B20,S63A,22x335,63Sn/37P	
4		0204-000441	FLUX;JS95TVS,FLUX,20,-	
4		0204-000442	SOLVENT;1M-1000,C3H70H,96,-	
⚠ 4	D813	0402-000233	DIODE-RECTIFIER;FML-G12S,200V,5A,-,-	
⚠ 4	D801S	0402-001160	DIODE-BRIDGE;D5SB60,600V,6A,SIP-4,-	
4	DH02	0402-001296	DIODE-RECTIFIER;FMP-3FU,1.5KV,5A,TO-3PF,	
4	DH01	0502-001136	TR-POWER;KSD5703,NPN,70W,TO-3PF,ST,8-	
⚠ 4	PC801S	0604-001038	PHOTO-COUPLER;TR,130-260%,200mW,DIP-4,ST	
4	IC902	1103-001177	IC-EEPROM;24WC16,2048x8Bit,DIP,8P,-,-,2.	
4	IC803	1203-002085	IC-VOLTAGE REGULATOR;78R08,TO-220,4P,-,P	
⚠ 4	IC201S	1204-001812	IC-VIDEO PROCESS;VDP3130Y-B2,DIP,64P,760	
4	IC601	1204-002038	IC-SOUND PROCESSOR;MSP3410G-PO-83V3,PSDI	
⚠ 4	NT802S	1404-001045	THERMISTOR-NTC;4.7ohm,15%,2900K,35.0mW,T	
⚠ 4	P801S	1404-001156	THERMISTOR-PTC;9OHM,+30%/-20%,220VRMS,27	
⚠ 4	CY802S	2201-000446	C-CERAMIC,DISC;3.3NF,20%,400V,Y5U,BK,15X	
4	C407	2301-001338	C-FILM,LEAD-OTHER;0.68NF,5%,1.6KV,BK,28X	
⚠ 4	CR402S	2301-001467	C-FILM,LEAD-PPF;3.9NF,3%,1.6KV,BK,29X8.X	
⚠ 4	CR401S	2301-001468	C-FILM,LEAD-PPF;3.3NF,3%,1.6KV,BK,29X13.	
⚠ 4	CX802S	2306-000318	C-FILM,LEAD-PPF;220NF,20%,250V,BK,-,22.5	
⚠ 4	CX801S	2306-000318	C-FILM,LEAD-PPF;220NF,20%,250V,BK,-,22.5	
⚠ 4	CR405S	2306-000350	C-FILM,LEAD-PPF;270NF,5%,400V,BK,26X18.5	
4	C806	2401-001426	C-AL;470uF,20%,400V,GP,-,35x45mm,10	
4	C815	2401-003633	C-AL;220UF,20%,160V,GP,ST,22X25MM,10	
4	X201	2801-004019	CRYSTAL-UNIT;20.25MHz,30ppm,28-AAM,13pF,	
4	X601	2801-004020	CRYSTAL-UNIT;18.432MHz,30ppm,28-AAM,12pF	
⚠ 4	SW801S	3403-001107	SWITCH-PUSH;250V,5A,DPST,-,KDC-A04	
⚠ 4	FP801S	3601-000281	FUSE-CARTRIDGE;250V,4A,TIME-LAG,GLASS,5.	
⚠ 4	V999S	3704-001105	SOCKET-CRT;11P,20PI,26.5PI,NI,-	
4	JA701	3722-001333	JACK-PIN;9P,3.2mm,NI,BLK,-	
4	JA702	3722-001596	JACK-PIN;3P/9P,3.5mm,NI,BLK(GRN/BLU/RED)	
⚠ 4	T801S	AA26-00044A	TRANS SWITCHING;-,-,-,AC90~260V,DC135/15	
⚠ 4	T444S	AA26-00057A	TRANS FBT;-,FUH-29A001B(S),25/29,130	
⚠ 4	T401	AA26-50001M	TRANS-HORIZ.DRIVE;-,-,-,80mH,-,-,520uH,-	
4	L808	AA27-00098A	COIL CHOKE;-,-,24uH,10%,-,0.1,3.0A,DR10X	
⚠ 4	CR404S	AA27-00147A	COIL HORIZ. WIDTH;,170UH,BK,54T+2-2	
⚠ 4	LR401S	AA27-00281A	COIL LINEARITY;64UH,64UH,DR1215 C:4.5,7.	
⚠ 4	LX801S	AA29-30002F	FILTER LINE NOISE;-,6mH,2.45A,-,-	
4	RM901	AA32-00015A	MODULE REMOCON;FRP-3521H31,38KHZ,940MM,M	
4		AA39-20010B	LEAD CONNECTOR-ASSY;,1P,500,YFH800-01,S,	
4		AA39-20010H	LEAD CONNECTOR-ASSY;,1P,300,YFH800-01,S,	
4	CN502B	AA39-20053A	LEAD CONNECTOR-ASSY;,5P,400,YBNH025-05,S	
4	CN501B	AA39-20054B	LEAD CONNECTOR-ASSY;,6P,500,YBNH025-06,S	
⚠ 4	TU01S	AA40-00082A	TUNER;TCPS3001PD16D(S),PAL-M(NTSC),181CH	
4	GT301	AA60-40012D	PIN-GT,ASSY;T1.6,6-12.5-,NYLON66	
4		AA61-00707B	HOLDER-COVER;ALL MODEL,NYLON-66 T1.0 V2,	
4		AA68-02713A	LABEL-AUTO;A/P,15,35,WHITE,ALL MODEL	
⚠ 4	IC804	AA96-00243C	ASSY H/S;-,REGULATOR,AA62-00045A,KA7806,	
5		1203-000284	IC-POSI.FIXED REG.;7806,TO-220,3P,-,PLAS	
5		6003-000335	SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	
5		AA62-00065A	HEAT SINK-PS;DP,-,-,-,AA62-00045A,-,-,-	

Level	Loc. No.	Code No.	Description ; Specification	Remark
4	LD901	AA96-00461A	ASSY LED GUIDE;-,-,SL-255D,RED/GRN	
4	DDR01	AA96-00469F	ASSY H/S;-,REGULATOR,AA62-00053B,D10U60S	
5		0205-000129	GREASE-SILICON;SC102,JAPAN	
5		0402-001358	DIODE-RECTIFIER;FFPF10U60S,600V,10A,TO-2	
5		0402-001375	DIODE-RECTIFIER;FFPF10U20S,200V,10A,TO-2	
5		1203-001006	IC-VOLTAGE REGULATOR;78R05,TO-220F,4P,-,	
5		6003-000334	SCREW-TAPTITE;RH,+,2S,M3,L6,ZPC(YEL),SWR	
5		AA62-00053B	HEAT SINK;DREAM (D2,D3),AL ,T1.0,147,50,	
4	IC501	AA96-00582A	ASSY H/S;-,CRT,AA62-00096A,STV5109,KS1A	
5		1201-001687	IC-VIDEO AMP;STV5109,ZIP,15P,-,SINGLE,50	
5		6003-000334	SCREW-TAPTITE;RH,+,2S,M3,L6,ZPC(YEL),SWR	
5		AA62-00096A	HEAT SINK;KS2A,AL5052,T1.0,W36.0,H35.0,S	
⚠ 4	IC801S	AA96-50373F	ASSY H/S;-,PWM,AA62-30181K,KA3A1265RD,IC	
5		0205-000129	GREASE-SILICON;SC102,JAPAN	
5		6003-000335	SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	
5		AA13-00101A	IC HYBRID;KA3S1265RD,CN5039,5PIN,-50TO12	
5		AA61-10386A	BRACKET-IC;100,SECC,T1.0,KA2S0680	
5		AA62-30181K	HEAT SINK-ES;-,AL6063 EXTR.,2,WHT,40MM,-	
4	IC602	AA96-50398A	ASSY H/S;-,-,AA62-30182E,TDA7297,-	
5		1201-001064	IC-POWER AMP;7297,ZIP,15P,-,DUAL,32dB,PL	
5		6003-000335	SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	
5		AA62-30182E	HEAT SINK-ES;-,A6063 EXTR,-,WHT,-,-,-,40	
4	IC301	AA96-50406G	ASSY H/S;,POWER,AA62-30180K,K57A	
5	CIS	1204-001807	IC-VERTICAL PROCESSO;LA7841,SIP,7P,708MI	
5	CIS	6003-000333	SCREW-TAPTITE;RH,+,2S,M3,L10,ZPC(YEL),SW	
5	CIS	AA62-00058A	HEAT SINK-ES;DP,-,-,-,AA62-30180K,-,-,-,	
4		AA97-04058A	ASSY AUTO-MAIN;CS21A9WAX/MUR,KS2A,MYANMA	
5	D201	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D202	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D207	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D208	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D209	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D210	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D212	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D501	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D502	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D503	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D508	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D602	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D604	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
⚠ 5	D804	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D906	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D908	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	DZ402	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
5	D403	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
5	D406	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
5	D504	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
⚠ 5	D810	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
⚠ 5	D811	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
5	D907	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
5	D407	0402-000493	DIODE-RECTIFIER;1R5GU41,400V,1.5A,DO-15L	
5	D413	0402-000537	DIODE-RECTIFIER;RH1A,600V,0.6A,DO-204AC	
5	D401	0402-000540	DIODE-RECTIFIER;RU20A,600V,1.5A,-,TP	
5	D402	0402-000540	DIODE-RECTIFIER;RU20A,600V,1.5A,-,TP	
5	D301	0402-000546	DIODE-RECTIFIER;TVR10G,400V,1.0A,DO-41,T	
5	D411	0402-000546	DIODE-RECTIFIER;TVR10G,400V,1.0A,DO-41,T	
⚠ 5	D803	0402-000546	DIODE-RECTIFIER;TVR10G,400V,1.0A,DO-41,T	
⚠ 5	D816	0402-000546	DIODE-RECTIFIER;TVR10G,400V,1.0A,DO-41,T	
⚠ 5	D801	0402-001111	DIODE-RECTIFIER;1N5397GP,600V,1.5A,DO-20	
5	DZ201	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ203	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ204	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ601	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ602	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ802	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ806	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ901	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ902	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ903	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ904	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ905	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ906	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ907	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ908	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500	
5	DZ306	0403-000700	DIODE-ZENER;TZP33A,33V,31-35V,1W,DO-41,T	
5	DZ804	0403-000700	DIODE-ZENER;TZP33A,33V,31-35V,1W,DO-41,T	
5	DZ701	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500	
5	DZ702	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500	
5	DZ803	0403-001167	DIODE-ZENER;MTZJ30D,30V,29.02-30.51V,500	
5	DZ509	0403-001211	DIODE-ZENER;MTZJ12B,11.44-12.03V,500MW,D	
5	DZ305	0403-001221	DIODE-ZENER;UZ39BSB,35.36-37.19V,500MW,D	
5	DZ202	0403-001321	DIODE-ZENER;MTZJ6.8C,6.66-7.01V,500mW,DO	
5	DZ801	0403-001322	DIODE-ZENER;MTZJ8.2B,7.78-8.19V,500mW,DO	
5	DZ808	0403-001322	DIODE-ZENER;MTZJ8.2B,7.78-8.19V,500mW,DO	
5	DZ501	0403-001325	DIODE-ZENER;MTZJ15C,14.35-15.09V,500mW,D	
5	DZ301	0403-001328	DIODE-ZENER;MTZJ22A,20.15-21.20V,500mW,D	
5	DZ302	0403-001329	DIODE-ZENER;MTZJ24B,22.61-23.77V,500mW,D	
5	DZ303	0403-001329	DIODE-ZENER;MTZJ24B,22.61-23.77V,500mW,D	
5	DZ304	0403-001329	DIODE-ZENER;MTZJ24B,22.61-23.77V,500mW,D	
5	D203	0404-000156	DIODE-SCHOTTKY;RB441Q,10V,100mA,DO-34,TP	
5	D204	0404-000156	DIODE-SCHOTTKY;RB441Q,10V,100mA,DO-34,TP	
5	D205	0404-000156	DIODE-SCHOTTKY;RB441Q,10V,100mA,DO-34,TP	
5	D206	0404-000156	DIODE-SCHOTTKY;RB441Q,10V,100mA,DO-34,TP	
5	D901	0404-000156	DIODE-SCHOTTKY;RB441Q,10V,100mA,DO-34,TP	
5	D902	0404-000156	DIODE-SCHOTTKY;RB441Q,10V,100mA,DO-34,TP	
5	D903	0404-000156	DIODE-SCHOTTKY;RB441Q,10V,100mA,DO-34,TP	
5	D904	0404-000156	DIODE-SCHOTTKY;RB441Q,10V,100mA,DO-34,TP	
5	D905	0404-000156	DIODE-SCHOTTKY;RB441Q,10V,100mA,DO-34,TP	
5	Q206	0501-000283	TR-SMALL SIGNAL;KSA539,PNP,400mW,TO-92,T	
5	Q208	0501-000283	TR-SMALL SIGNAL;KSA539,PNP,400mW,TO-92,T	
5	Q210	0501-000283	TR-SMALL SIGNAL;KSA539,PNP,400mW,TO-92,T	
5	Q201	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q202	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q203	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q204	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q207	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q209	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q211	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q212	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q213	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q222	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q602	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q902	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q903	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q904	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q905	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q906	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q907	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q908	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
5	Q402	0502-001007	TR-POWER;KSC2073-H2,NPN,25W,TO-220,ST,6	
5	DZ805	1203-001217	IC-POSI.ADJUST REG.;431,TO-92,3P,4.58MIL	
5	IC904	1203-001943	IC-VOL. DETECTOR;7025,TO-92,3P,-,PLASTIC	
5	IC903	1203-001944	IC-POSI.FIXED REG.;78RM33,TO-220,3P,-,PL	
⚠ 5	VP801S	1405-000187	VARISTOR;750V,1250A,12.5x7mm,TP	
⚠ 5	VX801S	1405-000187	VARISTOR;750V,1250A,12.5x7mm,TP	
5	R223	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R224	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R225	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R226	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R264	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R265	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R267	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R911	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R245	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R250	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R255	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
5	R916	2001-000007	R-CARBON;3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R214	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R918	2001-000009	R-CARBON;20KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R303	2001-000016	R-CARBON(S);1OHM,5%,1/2W,AA,TP,2.4X6.4MM	
5	R412	2001-000020	R-CARBON(S);22OHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R527	2001-000028	R-CARBON(S);100OHM,5%,1/2W,AA,TP,2.4X6.4	
5	R307	2001-000066	R-CARBON(S);10KOHM,5%,1/2W,AA,TP,2.4X6.4	
5	R825	2001-000066	R-CARBON(S);10KOHM,5%,1/2W,AA,TP,2.4X6.4	
5	R228	2001-000117	R-CARBON(S);68OHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R621	2001-000214	R-CARBON;1.1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R622	2001-000214	R-CARBON;1.1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R209	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R914	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R222	2001-000232	R-CARBON;1.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R822	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R823	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	

Level	Loc. No.	Code No.	Description ; Specification	Remark
5	R103	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R201	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R203	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R204	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R246	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R251	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R256	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R609	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R610	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R611	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R612	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R613	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R619	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R723	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R730	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R731	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R902	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R907	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R909	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R940	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R941	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R942	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R944	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R945	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R202	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R205	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R206	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R211	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R260	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R261	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R262	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R268	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R309	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R310	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R606	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R620	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R627	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R715	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R716	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R935	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R938	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R241	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R208	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R243	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R509	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R511	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R517	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	D505	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	D506	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	D507	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	J909	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R216	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R231	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R232	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R233	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R234	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R235	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R252	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R601	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R602	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R603	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R607	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R608	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R910	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R912	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R924	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R929	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R930	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R943	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R207	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R908	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R906	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R236	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R237	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R238	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R249	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R254	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R259	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R932	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R934	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R946	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R215	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R824	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R915	2001-000577	R-CARBON;2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R504	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R505	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R506	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R213	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R901	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R903	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R904	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R905	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R921	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R937	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R947	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R948	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R614	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R615	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R616	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R617	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R812	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R816	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R831	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R919	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R920	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R931	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R933	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R105	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R263	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R210	2001-000812	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R106	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R917	2001-000878	R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R501	2001-000904	R-CARBON;620OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R502	2001-000904	R-CARBON;620OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R503	2001-000904	R-CARBON;620OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R102	2001-000924	R-CARBON;680OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R922	2001-000924	R-CARBON;680OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R923	2001-000924	R-CARBON;680OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R709	2001-000938	R-CARBON;68OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R913	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R248	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R253	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R258	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R704	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R705	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R719	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R720	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R721	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R722	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	L905	2001-000995	R-CARBON;820OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	R925	2001-001035	R-CARBON;91OHM,5%,1/8W,AA,TP,1.8X3.2MM	
5	L401	2001-001037	R-CARBON(S);0.39OHM,5%,1/2W,AA,TP,2.4X6.	
5	R404	2001-001037	R-CARBON(S);0.39OHM,5%,1/2W,AA,TP,2.4X6.	
5	R308	2001-001062	R-CARBON(S);10MOHM,5%,1/2W,AA,TP,2.4X6.4	
5	R524	2001-001062	R-CARBON(S);10MOHM,5%,1/2W,AA,TP,2.4X6.4	
5	R507	2001-001065	R-CARBON(S);110KOHM,5%,1/2W,AA,TP,2.4X6.	
5	R510	2001-001065	R-CARBON(S);110KOHM,5%,1/2W,AA,TP,2.4X6.	
5	R513	2001-001065	R-CARBON(S);110KOHM,5%,1/2W,AA,TP,2.4X6.	
5	R826	2001-001072	R-CARBON(S);12OHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R811	2001-001078	R-CARBON(S);15KOHM,5%,1/2W,AA,TP,2.4X6.4	
5	R817	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4M	
⚠ 5	RR430S	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R818	2001-001113	R-CARBON(S);270KOHM,5%,1/2W,AA,TP,2.4X6.	
5	R410	2001-001114	R-CARBON(S);270OHM,5%,1/2W,AA,TP,2.4X6.4	
5	R805	2001-001150	R-CARBON(S);470KOHM,5%,1/2W,AA,TP,2.4X6.	
5	R806	2001-001150	R-CARBON(S);470KOHM,5%,1/2W,AA,TP,2.4X6.	
5	R813	2001-001153	R-CARBON(S);47OHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R832	2001-001153	R-CARBON(S);47OHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R939	2001-001153	R-CARBON(S);47OHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R414	2001-001165	R-CARBON(S);56OHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R810	2001-001178	R-CARBON(S);680OHM,5%,1/2W,AA,TP,2.4X6.4	
5	R409	2001-001187	R-CARBON(S);75OHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R809	2001-001410	R-CARBON(S);43OHM,5%,1/2W,AA,TP,2.4X6.4M	
5	R512	2002-001008	R-COMPOSITION;1.8Kohm,10%,1/2W,AA,TP,3.7	

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5	R515	2002-001008	R-COMPOSITION;1.8Kohm,10%,1/2W,AA,TP,3.7	
5	R518	2002-001008	R-COMPOSITION;1.8Kohm,10%,1/2W,AA,TP,3.7	
5	R521	2002-001009	R-COMPOSITION;2.7Kohm,10%,1/2W,AA,TP,3.7	
⚠ 5	RP801S	2002-001010	R-COMPOSITION;1.8Mohm,5%,1/2W,AA,TP,3.7x	
⚠ 5	RX801S	2002-001011	R-COMPOSITION;3.3Mohm,5%,1/2W,AA,TP,3.7x	
⚠ 5	RY801S	2002-001011	R-COMPOSITION;3.3Mohm,5%,1/2W,AA,TP,3.7x	
⚠ 5	RY802S	2002-001013	R-COMPOSITION;4.7Mohm,5%,1/2W,AA,TP,3.7x	
5	R426	2003-000540	R-METAL OXIDE(S);1Kohm,5%,2W,AF,TP,4x12m	
5	R227	2003-000592	R-METAL OXIDE(S);22ohm,5%,2W,AF,TP,4x12m	
5	R434	2003-000664	R-METAL OXIDE(S);33ohm,5%,2W,AF,TP,4x12m	
5	R807	2003-000746	R-METAL OXIDE(S);56ohm,5%,2W,AF,TP,4x12m	
5	R808	2003-000746	R-METAL OXIDE(S);56ohm,5%,2W,AF,TP,4x12m	
5	R802	2003-001025	R-METAL OXIDE(S);15Kohm,5%,2W,AF,TP,3.9x	
5	R803	2003-001025	R-METAL OXIDE(S);15Kohm,5%,2W,AF,TP,3.9x	
5	R804	2003-001025	R-METAL OXIDE(S);15Kohm,5%,2W,AF,TP,3.9x	
5	R403	2003-002037	R-METAL OXIDE(S);270ohm,5%,2W,AF,TP,3.9x	
5	R436	2003-002151	R-METAL OXIDE;18KOHM,5%,2W,AG,TP,6X16MM	
5	R305	2003-002182	R-METAL OXIDE(S);470ohm,5%,2W,AG,TP,3.9x	
5	R306	2003-002182	R-METAL OXIDE(S);470ohm,5%,2W,AG,TP,3.9x	
5	R401	2003-002186	R-METAL OXIDE(S);22Kohm,5%,2W,AG,TP,3.9x	
5	R402	2003-002186	R-METAL OXIDE(S);22Kohm,5%,2W,AG,TP,3.9x	
5	R835	2003-002211	R-METAL OXIDE(S);91Kohm,5%,2W,AG,TP,3.9x	
5	R836	2003-002211	R-METAL OXIDE(S);91Kohm,5%,2W,AG,TP,3.9x	
5	R212	2004-000218	R-METAL;10Kohm,1%,1/8W,AA,TP,1.8x3.2mm	
5	R313	2004-001137	R-METAL;6.8Kohm,1%,1/8W,AA,TP,1.8x3.2m	
5	R821	2004-001377	R-METAL(S);120Kohm,1%,1/2W,AA,TP,2.4x6.4	
5	R301	2004-001397	R-METAL(S);4.7Kohm,1%,1/2W,AA,TP,2.4x6.4	
5	R429	2004-001397	R-METAL(S);4.7Kohm,1%,1/2W,AA,TP,2.4x6.4	
5	R432	2004-001397	R-METAL(S);4.7Kohm,1%,1/2W,AA,TP,2.4x6.4	
5	R819	2004-001983	R-METAL(S);2.49Kohm,1%,1/2W,AA,TP,2.4x6.	
5	R314	2004-001986	R-METAL(S);35.7Kohm,1%,1/2W,AA,TP,2.4x6.	
5	R315	2004-004970	R-METAL(S);62Kohm,1%,1/8W,AA,TP,1.8x3.2m	
5	R302	2004-005020	R-METAL(S);27.5KOHM,1%,1/2W,AA,TP,2.5X6.	
5	R522	2008-000206	R-FUSIBLE(S);1ohm,5%,1/2W,AF,TP,2.5x6.5m	
5	R424	2008-000253	R-FUSIBLE(S);0.47ohm,5%,1W,AF,TP,3.9x10m	
5	R425	2008-000253	R-FUSIBLE(S);0.47ohm,5%,1W,AF,TP,3.9x10m	
5	R828	2008-000266	R-FUSIBLE(S);1ohm,5%,2W,AF,TP,3.9x10mm	
5	R829	2008-000266	R-FUSIBLE(S);1ohm,5%,2W,AF,TP,3.9x10mm	
5	R827	2008-000284	R-FUSIBLE(S);0.1OHM,10%,2W,AF,TP,3.9X10M	
5	R405	2008-001018	R-FUSIBLE(S);0.47ohm,10%,2W,AF,TP,3.9x10	
5	R433	2008-001127	R-FUSIBLE(S);6.8Kohm,5%,1W,AF,TP,3.9X10m	
5	R523	2008-001129	R-FUSIBLE(S);1.5ohm,5%,1/2W,AF,TP,2.5x6.	
5	R304	2008-001140	R-FUSIBLE(S);0.9OHM,5%,2W,AF,TP,3.9X10MM	
5	C424	2201-000132	C-CERAMIC,DISC;0.1NF,10%,500V,Y5P,TP,6.5	
5	C656	2201-000304	C-CERAMIC,DISC;0.001NF,0.25PF,50V,C0G,TP	
5	C657	2201-000304	C-CERAMIC,DISC;0.001NF,0.25PF,50V,C0G,TP	
5	C804	2201-000332	C-CERAMIC,DISC;2.2NF,20%,250V,Y5U,TP,9X4	
5	C805	2201-000332	C-CERAMIC,DISC;2.2NF,20%,250V,Y5U,TP,9X4	
5	C428	2201-000406	C-CERAMIC,DISC;0.27NF,10%,2KV,Y5P,TP,6.3	
5	C205	2201-000504	C-CERAMIC,DISC;0.039NF,5%,50V,SL,TP,5X3M	
5	C401	2201-000556	C-CERAMIC,DISC;0.47NF,10%,500V,Y5P,TP,5.	
5	C403	2201-000556	C-CERAMIC,DISC;0.47NF,10%,500V,Y5P,TP,5.	
5	C421	2201-000556	C-CERAMIC,DISC;0.47NF,10%,500V,Y5P,TP,5.	
5	C650	2201-000558	C-CERAMIC,DISC;0.47NF,10%,50V,Y5P,TP,5X3	
5	C817	2201-000599	C-CERAMIC,DISC;0.56NF,10%,500V,Y5P,TP,5.	
5	C819	2201-000599	C-CERAMIC,DISC;0.56NF,10%,500V,Y5P,TP,5.	
5	C822	2201-000599	C-CERAMIC,DISC;0.56NF,10%,500V,Y5P,TP,5.	
5	C425	2201-000599	C-CERAMIC,DISC;0.56NF,10%,500V,Y5P,TP,5.	
5	C843	2201-000681	C-CERAMIC,DISC;0.082NF,5%,50V,SL,TP,5X3M	
5	C509	2201-000723	C-CERAMIC,DISC;4.7NF,20%,3KV,Y5U,TP,16X5	
5	C910	2201-000980	C-CERAMIC,DISC;0.03NF,5%,50V,C0G,TP,5X3M	
5	C911	2201-000980	C-CERAMIC,DISC;0.03NF,5%,50V,C0G,TP,5X3M	
5	C814	2201-000991	C-CERAMIC,DISC;0.56NF,10%,2KV,Y5P,TP,7.5	
5	C224	2201-002031	C-CERAMIC,DISC;0.005NF,0.5PF,50V,C0G,TP,	
5	C225	2201-002031	C-CERAMIC,DISC;0.005NF,0.5PF,50V,C0G,TP,	
5	C303	2201-002031	C-CERAMIC,DISC;0.005NF,0.5PF,50V,C0G,TP,	
5	C115	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
5	C116	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
5	C243	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
5	C244	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
5	C245	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
5	C501	2202-000205	C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1.	
5	C502	2202-000205	C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1.	
5	C503	2202-000205	C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1.	
5	C627	2202-000231	C-CERAMIC,MLC-AXIAL;0.33NF,10%,50V,Y5P,T	
5	C629	2202-000231	C-CERAMIC,MLC-AXIAL;0.33NF,10%,50V,Y5P,T	
5	C632	2202-000231	C-CERAMIC,MLC-AXIAL;0.33NF,10%,50V,Y5P,T	
5	C642	2202-000231	C-CERAMIC,MLC-AXIAL;0.33NF,10%,50V,Y5P,T	
5	C644	2202-000231	C-CERAMIC,MLC-AXIAL;0.33NF,10%,50V,Y5P,T	
5	C647	2202-000286	C-CERAMIC,MLC-AXIAL;56pF,5%,50V,SL,TP,1.	
5	C654	2202-000286	C-CERAMIC,MLC-AXIAL;56pF,5%,50V,SL,TP,1.	
5	C912	2202-000719	C-CERAMIC,MLC-AXIAL;6.8nF,20%,16V,Y5R,TP	
5	C211	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
5	C504	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
5	C505	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
5	C506	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
5	C607	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
5	C608	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
5	C905	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
5	C908	2202-000863	C-CERAMIC,MLC-AXIAL;560pF,10%,50V,Y5P,TP	
5	C206	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
5	C218	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
5	C219	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
5	C220	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
5	C226	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
5	C232	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
5	C901	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
5	C921	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
5	C960	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
5	C412	2301-000148	C-FILM,LEAD-PEF;10nF,5%,100V,TP,7x3.2x7m	
5	C821	2301-000192	C-FILM,LEAD-PEF;1nF,5%,50V,TP,5.3x10mm,5	
5	C811	2301-000254	C-FILM,LEAD-PEF;39nF,5%,50V,TP,7.5x3.5x6	
5	C213	2301-000310	C-FILM,LEAD-PEF;68nF,5%,50V,TP,8.0X8.5X4	
5	C242	2301-000310	C-FILM,LEAD-PEF;68nF,5%,50V,TP,8.0X8.5X4	
5	C610	2301-000314	C-FILM,LEAD-PEF;8.2nF,5%,50V,TP,6.5x3.0x	
5	C611	2301-000314	C-FILM,LEAD-PEF;8.2nF,5%,50V,TP,6.5x3.0x	
5	C306	2301-000342	C-FILM,LEAD-PEF;2.2nF,5%,50V,TP,7.4x3.9x	
5	C228	2301-000356	C-FILM,LEAD-PEF;47nF,5%,50V,TP,7.5x4.0x6	
5	C803	2301-000356	C-FILM,LEAD-PEF;47nF,5%,50V,TP,7.5x4.0x6	
5	C809	2301-000356	C-FILM,LEAD-PEF;47nF,5%,50V,TP,7.5x4.0x6	
5	C103	2301-000383	C-FILM,LEAD-PEF;10nF,5%,50V,TP,6x7x3.2mm	
5	C105	2301-000383	C-FILM,LEAD-PEF;10nF,5%,50V,TP,6x7x3.2mm	
5	C420	2301-001065	C-FILM,LEAD-PPF;47nF,5%,630V,TP,19x15.5x	
⚠ 5	CR403S	2301-001067	C-FILM,LEAD-PPF;82nF,5%,400V,TP,19x15.5x	
5	C807	2301-001435	C-FILM,LEAD-PPF;1.5nF,5%,1.2kV,TP,15x8x1	
5	C305	2305-000149	C-FILM,LEAD-PEF;100nF,5%,100V,TP,12x12.5	
5	C304	2305-000285	C-FILM,LEAD-PEF;220NF,5%,100V,TP,10.5X5.	
5	C408	2305-000382	C-FILM,LEAD-PEF;4.7nF,5%,400V,TP,-,5mm	
5	C233	2305-000412	C-FILM,LEAD-PEF;470nF,5%,63V,TP,-,5mm	
5	C234	2305-000412	C-FILM,LEAD-PEF;470nF,5%,63V,TP,-,5mm	
5	C235	2305-000412	C-FILM,LEAD-PEF;470nF,5%,63V,TP,-,5mm	
5	C236	2305-000412	C-FILM,LEAD-PEF;470nF,5%,63V,TP,-,5mm	
5	C214	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C216	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C308	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C513	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C605	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C620	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C635	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C646	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C823	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C825	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C829	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C831	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C837	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C839	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C907	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C914	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C916	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C919	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
5	C508	2305-000704	C-FILM,LEAD-PEF;100nF,5%,250V,TP,16.5x10	
5	C511	2305-000704	C-FILM,LEAD-PEF;100nF,5%,250V,TP,16.5x10	
5	C202	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C210	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C215	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C227	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C229	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C231	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C630	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C631	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C645	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C827	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	

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5	C840	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C903	2401-000050	C-AL;10uF,20%,16V,GP,TP,5x11,2.5	
5	C104	2401-000142	C-AL;1000uF,20%,16V,WT,TP,10x20,5	
5	C816	2401-000262	C-AL;100uF,20%,160V,HR,TP,16x25,7.5	
5	C913	2401-000287	C-AL;100uF,20%,16V,WT,TP,6.3x11,5	
5	C915	2401-000287	C-AL;100uF,20%,16V,WT,TP,6.3x11,5	
5	C904	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
5	C302	2401-000360	C-AL;100uF,20%,50V,GP,TP,8x11.5,5	
5	C307	2401-000360	C-AL;100uF,20%,50V,GP,TP,8x11.5,5	
5	C920	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
5	C230	2401-000493	C-AL;10uF,20%,50V,LZ,TP,5x11mm,5mm	
5	C617	2401-000493	C-AL;10uF,20%,50V,LZ,TP,5x11mm,5mm	
5	C201	2401-000553	C-AL;1uF,10%,50V,GP,TP,5x11,5	
5	C618	2401-000553	C-AL;1uF,10%,50V,GP,TP,5x11,5	
5	C902	2401-000553	C-AL;1uF,10%,50V,GP,TP,5x11,5	
5	C106	2401-000603	C-AL;1UF,20%,50V,GP,TP,5X11,2	
5	C239	2401-000603	C-AL;1UF,20%,50V,GP,TP,5X11,2	
5	C841	2401-000611	C-AL;1uF,20%,50V,WT,TP,5x11,5	
5	C818	2401-000711	C-AL;2200uF,20%,25V,GP,TP,16x25,7.5	
5	C237	2401-000913	C-AL;22uF,20%,16V,GP,TP,5x11,5	
5	C217	2401-001026	C-AL;3.3UF,20%,50V,GP,TP,5X11,5	
5	C636	2401-001026	C-AL;3.3UF,20%,50V,GP,TP,5X11,5	
5	C820	2401-001054	C-AL;3300uF,20%,25V,GP,TP,18x25,7.5	
5	C510	2401-001232	C-AL;4.7uF,20%,250V,GP,TP,10x12.5,5	
5	C626	2401-001989	C-AL;4.7uF,20%,50V,BP,TP,5x11,5	
5	C628	2401-001989	C-AL;4.7uF,20%,50V,BP,TP,5x11,5	
5	C637	2401-001271	C-AL;4.7uF,20%,50V,GP,TP,4x7mm,5mm	
5	C640	2401-001271	C-AL;4.7uF,20%,50V,GP,TP,4x7mm,5mm	
5	C641	2401-001271	C-AL;4.7uF,20%,50V,GP,TP,4x7mm,5mm	
5	C643	2401-001271	C-AL;4.7uF,20%,50V,GP,TP,4x7mm,5mm	
5	C402	2401-001397	C-AL;470uF,20%,25V,GP,TP,10x16,5	
5	C404	2401-001397	C-AL;470uF,20%,25V,GP,TP,10x16,5	
5	C203	2401-001495	C-AL;47uF,20%,16V,GP,TP,5x11,5	
5	C422	2401-001527	C-AL;47uF,20%,250V,HR,TP,13x25mm,5m	
5	C634	2401-001840	C-AL;100uF,20%,16V,GP,TP,6.3x11,5	
5	C652	2401-001840	C-AL;100uF,20%,16V,GP,TP,6.3x11,5	
5	C660	2401-001840	C-AL;100uF,20%,16V,GP,TP,6.3x11,5	
5	C838	2401-001840	C-AL;100uF,20%,16V,GP,TP,6.3x11,5	
5	C917	2401-001840	C-AL;100uF,20%,16V,GP,TP,6.3x11,5	
5	C918	2401-001840	C-AL;100uF,20%,16V,GP,TP,6.3x11,5	
5	C612	2401-001914	C-AL;1uF,20%,50V,BP,TP,5x11,5	
5	C613	2401-001914	C-AL;1uF,20%,50V,BP,TP,5x11,5	
5	C621	2401-001998	C-AL;1000uF,20%,25V,GP,TP,10x20,5mm	
5	C427	2401-002267	C-AL;2.2uF,20%,250V,GP,TP,8x11.5,5	
5	C507	2401-002267	C-AL;2.2uF,20%,250V,GP,TP,8x11.5,5	
5	C808	2401-002300	C-AL;47uF,20%,50V,GP,TP,6.3x11,5	
5	C102	2401-002463	C-AL;470uF,20%,16V,GP,TP,8x11.5,5	
5	C512	2401-002463	C-AL;470uF,20%,16V,GP,TP,8x11.5,5	
5	C826	2401-002463	C-AL;470uF,20%,16V,GP,TP,8x11.5,5	
5	C414	2401-002597	C-AL;220uF,20%,35V,GP,TP,10x12.5,5	
5	C248	2401-002619	C-AL;47uF,20%,25V,GP,TP,5x11,5	
5	C832	2401-003036	C-AL;100uF,20%,16V,GP,TP,5X11mm,5mm	
5	C250	2401-003102	C-AL;100uF,20%,10V,GP,TP,5x11,5	
5	C835	2401-003139	C-AL;1000uF,20%,25V,WT,TP,10*20,5mm	
5	CW901	2503-000156	C-NETWORK;100pFx4,20%,50V	
5	L202	2701-000114	INDUCTOR-AXIAL;10uH,10%,2534	
5	L301	2701-000114	INDUCTOR-AXIAL;10uH,10%,2534	
5	L602	2701-000114	INDUCTOR-AXIAL;10uH,10%,2534	
5	L603	2701-000114	INDUCTOR-AXIAL;10uH,10%,2534	
5	L906	2701-000114	INDUCTOR-AXIAL;10uH,10%,2534	
5	L907	2701-000114	INDUCTOR-AXIAL;10uH,10%,2534	
5	R604	2701-000114	INDUCTOR-AXIAL;10uH,10%,2534	
5	R605	2701-000114	INDUCTOR-AXIAL;10uH,10%,2534	
5	L103	2701-000115	INDUCTOR-AXIAL;10uH,10%,3070	
5	J705	2701-000142	INDUCTOR-AXIAL;1uH,10%,2534	
5	J706	2701-000142	INDUCTOR-AXIAL;1uH,10%,2534	
5	J707	2701-000142	INDUCTOR-AXIAL;1uH,10%,2534	
5	J699	2701-000168	INDUCTOR-AXIAL;3.3uH,5%,2534	
5	L207	2701-000168	INDUCTOR-AXIAL;3.3uH,5%,2534	
5	L208	2701-000168	INDUCTOR-AXIAL;3.3uH,5%,2534	
5	L209	2701-000168	INDUCTOR-AXIAL;3.3uH,5%,2534	
5	L604	2701-000168	INDUCTOR-AXIAL;3.3uH,5%,2534	
5	J920	2701-000180	INDUCTOR-AXIAL;33uH,5%,2534	
5	L607	2701-000180	INDUCTOR-AXIAL;33uH,5%,2534	
5	L608	2701-000180	INDUCTOR-AXIAL;33uH,5%,2534	
5	L705	2701-000180	INDUCTOR-AXIAL;33uH,5%,2534	
5	L706	2701-000180	INDUCTOR-AXIAL;33uH,5%,2534	
5	L902	2701-000183	INDUCTOR-AXIAL;39uH,5%,2534	
5	L102	2701-001090	INDUCTOR-AXIAL;0.56uH,10%,3070	
5	L201	2702-001094	INDUCTOR-RADIAL;10uH,10%,4x6mm	
5	L204	2702-001094	INDUCTOR-RADIAL;10uH,10%,4x6mm	
5	L601	2702-001094	INDUCTOR-RADIAL;10uH,10%,4x6mm	
5	L609	2702-001094	INDUCTOR-RADIAL;10uH,10%,4x6mm	
5	L901	2702-001094	INDUCTOR-RADIAL;10uH,10%,4x6mm	
5	L903	2702-001094	INDUCTOR-RADIAL;10uH,10%,4x6mm	
5	L904	2702-001094	INDUCTOR-RADIAL;10uH,10%,4x6mm	
5	R519	2702-001096	INDUCTOR-RADIAL;33uH,10%,4x6mm	
5	X901	2801-003728	CRYSTAL-UNIT;6MHz,30ppm,28-AAM,20pF,40oh	
5	L407	2901-000297	FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,-	
5	L501	2901-000297	FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,-	
5	L804	2901-000297	FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,-	
5	L807	2901-000297	FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,-	
5	L302	3301-000287	BEAD-AXIAL;AA,3.5x1.0x6.0mm,1500,2400G	
5	L303	3301-000287	BEAD-AXIAL;AA,3.5x1.0x6.0mm,1500,2400G	
5	L610	3301-000287	BEAD-AXIAL;AA,3.5x1.0x6.0mm,1500,2400G	
5	L801	3301-000287	BEAD-AXIAL;AA,3.5x1.0x6.0mm,1500,2400G	
5	L802	3301-000287	BEAD-AXIAL;AA,3.5x1.0x6.0mm,1500,2400G	
5	L803	3301-000287	BEAD-AXIAL;AA,3.5x1.0x6.0mm,1500,2400G	
5	L806	3301-000287	BEAD-AXIAL;AA,3.5x1.0x6.0mm,1500,2400G	
5	L809	3301-000287	BEAD-AXIAL;AA,3.5x1.0x6.0mm,1500,2400G	
5	SW901	3404-001252	SWITCH-TACT;12VDC,50MA,130GF,7.5X7.1,1	
5	SW902	3404-001252	SWITCH-TACT;12VDC,50MA,130GF,7.5X7.1,1	
5	SW903	3404-001252	SWITCH-TACT;12VDC,50MA,130GF,7.5X7.1,1	
5	SW904	3404-001252	SWITCH-TACT;12VDC,50MA,130GF,7.5X7.1,1	
5	SW905	3404-001252	SWITCH-TACT;12VDC,50MA,130GF,7.5X7.1,1	
⚠ 5	FD801S	3601-001086	FUSE-AXIAL LEAD;125V,5A,FAST-ACTING,GLAS	
⚠ 5	FD803S	3601-001086	FUSE-AXIAL LEAD;125V,5A,FAST-ACTING,GLAS	
⚠ 5	FD802S	3601-001228	FUSE-AXIAL LEAD;125V,10A,FAST-ACTING,EPO	
5	F801A	3602-000114	FUSE-HOLDER;-,-,30mohm	
5	F801B	3602-000114	FUSE-HOLDER;-,-,30mohm	
5	CN602	3711-002644	CONNECTOR-HEADER;BOX,5P,1R,2.5mm,STRAIGH	
5	CN701	3711-002647	CONNECTOR-HEADER;BOX,8P,1R,2.5mm,STRAIGH	
5	J102	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J103	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J104	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J106	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J107	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J108	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J109	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J110	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J112	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J113	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J115	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J116	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J117	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J118	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J119	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J120	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J122	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J126	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J127	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J128	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J202	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J204	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J205	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J206	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J209	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J210	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J211	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J212	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J213	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J215	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J216	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J217	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J219	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J221	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J222	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J223	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J224	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J225	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J226	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J227	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J228	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J229	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	

Level	Loc. No.	Code No.	Description ; Specification	Remark
5	J231	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J232	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J233	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J234	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J235	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J237	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J238	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J239	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J240	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J242	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J243	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J245	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J246	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J247	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J248	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J249	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J250	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J251	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J252	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J253	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J254	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J255	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J256	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J257	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J258	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J259	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J260	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J261	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J262	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J263	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J264	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J290	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J291	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J292	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J311	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J312	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J313	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J404	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J405	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J406	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J407	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J408	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J409	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J410	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J411	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J412	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J413	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J416	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J419	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J420	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J421	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J422	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J429	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J444	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J445	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J446	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J501	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J502	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J504	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J505	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J510	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J600	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J601	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J602	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J603	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J605	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J606	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J608	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J609	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J610	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J611	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J613	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J614	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J615	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J616	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J617	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J619	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J620	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J625	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J626	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J628	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J629	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J630	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J632	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J634	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J635	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J636	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J665	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J701	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J703	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J704	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J708	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J709	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J712	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J715	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J805	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J807	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J810	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J811	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J814	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J815	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J816	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J817	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J818	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J819	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J820	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J821	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J822	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J826	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J831	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J832	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J833	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J834	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J835	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J901	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J902	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J904	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J906	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J907	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J908	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J911	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J912	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J913	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J914	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J915	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J916	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J917	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J918	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J921	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J922	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J923	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J924	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J925	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J926	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J927	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J928	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J931	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J933	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J934	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J935	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J936	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J941	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J942	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J994	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J995	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J996	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J997	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	J998	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	JJ01	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	L101	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	L203	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	L410	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	

Level	Loc. No.	Code No.	Description ; Specification	Remark
5	L605	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	L606	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	L701	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	L702	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	L711	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	R623	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	R820	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
5	EL401	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL402	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL404	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL405	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL802	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL803	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL805	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL806	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL807	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL808	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	
5	EL801	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY301	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY303	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY401	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY402	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY403	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY405	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY406	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY409	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY410	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY411	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY412	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY413	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY414	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY415	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY416	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY417	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY418	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY419	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY421	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY422	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY423	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY424	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY425	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY426	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY429	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY430	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY431	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY432	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY433	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY434	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY435	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY436	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY437	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY438	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY439	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY440	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY441	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY445	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY601	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY602	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY603	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY604	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY605	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY606	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY701	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY702	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY801	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY802	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY803	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY804	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY805	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY806	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY807	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY808	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY809	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY810	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY811	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY812	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY813	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY814	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY815	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY816	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY817	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY819	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY821	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY823	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY824	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY825	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY826	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY827	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY828	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY830	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY831	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY832	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY833	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY834	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY835	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY836	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY837	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY838	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY839	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY841	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY842	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY844	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY845	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY846	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY847	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY848	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY849	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY850	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY851	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY852	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY853	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY854	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY855	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY856	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY858	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY859	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY860	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY861	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY863	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY864	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY865	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY866	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY867	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY870	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	EY871	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	
5	PCB	AA41-00132K	PCB-MAIN;CS2139T,FR-1,1L,K,1.6T,330X245,	
5	GT101	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT102	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT407	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT501	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT502	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT503	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT801	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT802	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT803	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT804	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT805	AA60-40014A	PIN-GT,ASSY;AUTO	
5	GT806	AA60-40014A	PIN-GT,ASSY;AUTO	
4	IC901	AA97-06805C	ASSY MICOM;,KS3A,SDA555X,SIM806EA3,02111	
5		AA09-00041A	IC MICOM;,SDA555X-OTP,3.3V,-,128K,SDIP,-	
3		AA98-00314F	ASSY K/D-PACKING,PCB;KS2,3A,T/W,KS1B,S56	
4	CHASIS	AA61-30009A	LOCKER-BAND,CLIP;-,SPC-1,-,-,18MM T0.5,-	
4	CHASIS	AA63-10007C	BAND-PP;W18,CLEA,1G	
4	CHASIS	AA69-01087K	PALLET-CKD;CKD,SKD,PAPER,1150,840,130	
4	CHASIS	AA69-01205H	PAD;,PS,1110,800,T36	
4	CHASIS	AA69-01375B	CUSHION-CHASSIS;KS2A/3A,EPS C=0.02	
4	CHASIS	AA69-01381B	PAD-CHASSIS;KS2A,KS3A,EX300,LINER,240,32	
4	CHASIS	AA69-01396A	BAG PE;SKD CHASSIS,LDPE,T0.03,240,180,NO	
4	CHASIS	AA69-01403A	WRAP VINYL-PACKING;SKD CHASSIS,LDPE,T0.0	
4	CHASIS	AA69-01808B	BAG-SHEET;,LDPE(ANTISTATIC),T0.05,800,50	
2		AA95-01784V	ASSY SUB-PCB,A/V FRONT;DP,21A8,KS2AAA95-	
3		0202-000008	SOLDER-WIRE;S63S-W3.0,S63S,D3,63Sn/37Pb,	
3		0202-000187	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb	
3		0203-001269	TAPE-OPP MASKING;#301,T0.06,W75,L50000,N	

Level	Loc. No.	Code No.	Description ; Specification	Remark
3		0204-000441	FLUX;JS95TVS,FLUX,20,-	
3		0204-000442	SOLVENT;1M-1000,C3H70H,96,-	
3	JE01	3722-000143	JACK-PHONE;1P(VER),3.4PI,AG,BLK,NO	
3	JR01	3722-001031	JACK-PIN;3P,3.6mm,#18,AU	
3	CN06A	AA39-00070A	LEAD CONNECTOR-ASSY;,4P,200MM,YBNH250-04	
3	CN01A	AA39-20068E	LEAD CONNECTOR-ASSY;,8P,500,YBNH025-08,6	
3	CN05A	AA39-20069D	LEAD CONNECTOR-ASSY;,5P,300,YBNH025-05,6	
3		AA63-10002A	BAND-TIE;NYLON66 V2,L100,NTR	
3	PACKING	AA69-10040L	PAD-PLATE;CB SW-3,YEL,550,360,-,B-TYPE,-	
3	PACKING	AA69-10145G	PAD-CROSS;CB DW-2,YEL,555,75,-,-,-,-	
3	PACKING	AA69-10145H	PAD-CROSS;CB DW-2,YEL,365,75,-,-,-,-	
3	PACKING	AA69-40013C	MASTER CARTON;-,CB DW-3,-,560,370,275,YE	
3		AA97-03575A	ASSY AUTO-MAIN;21A9,KS2A,INDIA	
4	RA01	2001-000028	R-CARBON(S);100OHM,5%,1/2W,AA,TP,2.4X6.4	
4	RA02	2001-000028	R-CARBON(S);100OHM,5%,1/2W,AA,TP,2.4X6.4	
4	CA02	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
4	CA03	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
4	CA04	2202-000720	C-CERAMIC,MLC-AXIAL;8.2nF,20%,16V,Y5R,TP	
4	CA05	2202-000720	C-CERAMIC,MLC-AXIAL;8.2nF,20%,16V,Y5R,TP	
4	CA06	2401-003102	C-AL;100uF,20%,10V,GP,TP,5x11,5	
4	CA07	2401-003102	C-AL;100uF,20%,10V,GP,TP,5x11,5	
4	LA04	2701-000180	INDUCTOR-AXIAL;33uH,5%,2534	
4	LA05	2701-000180	INDUCTOR-AXIAL;33uH,5%,2534	
4	LA02	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
4	LA03	3812-000219	WIRE-NO SHEATH CU;TCWA,300V,52mm(TAPING)	
4	PCB	AA41-10358C	PCB-FRONT AV;CHASSIS-ALL,FR-1,1L,C,1.6T,	

ASSY CPT

1		AA91-06959A	ASSY CPT;1	
2		AA27-00113A	COIL DEGAUSSING;-,-,4.8mH,-,48T,9ohm,-,2	
2		AA98-00293C	ASSY K/D-CRT;A51QDJ279X34,+380MG,21FALT	
⚠ 3		AA03-00302A	CRT COLOR;A51QDX992X001(NF),+380MG,1.85M	
2		AA98-70014D	ASSY TBC WIRE(P);-,22 Q,NTSC,PAL,1P,TVI	

ASSY P/MATERIAL

1		AA92-03098R	ASSY P/MATERIAL;CS21S8NAS/MUR	
2	ACCERY	0203-001269	TAPE-OPP MASKING;#301,T0.06,W75,L50000,N	
2	BOX	0203-001269	TAPE-OPP MASKING;#301,T0.06,W75,L50000,N	
2		6902-000005	BAG PE;HDPE/NITRON/HDPE,T0.015/T0.5/T0.0	
2		AA60-40007A	PIN-STAPLE	
2		AA69-01388A	CUSHION-SET;21S8,EPS FOAMED,C=0.02	

ASSY ACCESSORY

1		AA92-03235M	ASSY ACCESSORY;CS21S8NAX/MUR	
2		4301-000120	BATTERY-MN;1.5V,-,AA,14.5x50mm,-	
2		AA26-90001C	TRANS MATCHING;-,300ohm/75ohm,PAL,40-890	
2		AA42-00003A	ANT ROD;-,3S,720mm,ABS,UL/CSA,-	
2		AA59-00104M	REMOCON;,TM59,KS2A,29,L/GRAY,NON-TTX,GRA	
2		AA68-00886D	MANUAL USERS;,ENG,W/P100G,B5,KS2A	
2		AA69-30002A	BAG-SHEET;LDPE,T0.05,W240,L400,-,L-TYPE,	

ASSY BOX

1		AA92-07521J	ASSY BOX;CS21S8NAS/MUR	
2	TSE	AA68-01204A	LABEL-PACKING;ALL MODEL,-,-,9MM,25MM,-,-	
2		AA69-02202H	PACKING CASE;21S8(OVERSEA),D-3 AB,A1,YEL	

ASSY SKD PART

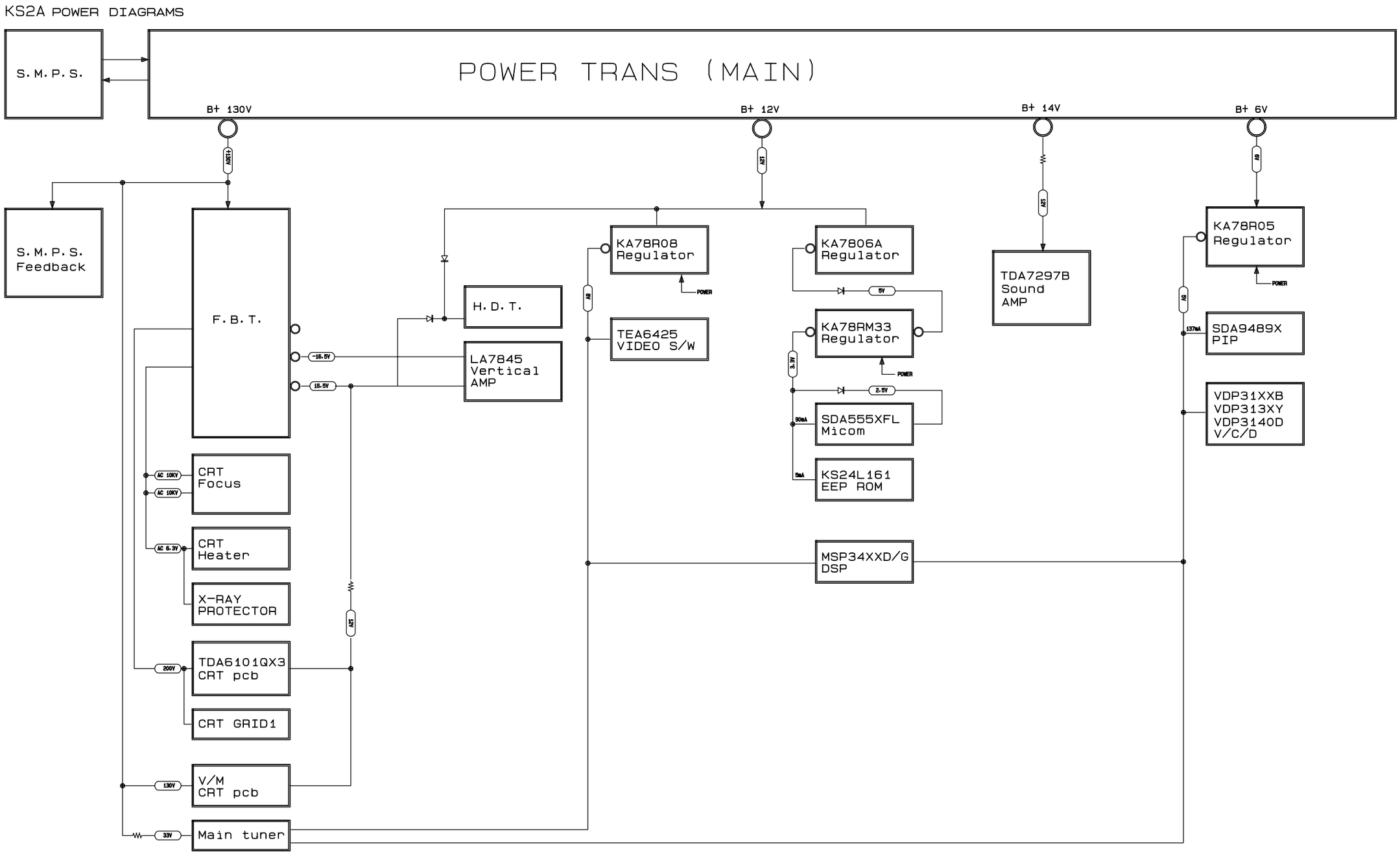
1		AA92-08297A	ASSY SKD PART;6	
2		AA65-30009A	CLAMPER CORE-FBT;-,ABS,V0,-,BLK,-	
2	FBT	AA65-30018A	CLAMPER CORE-WIRE;DONG-A,NYLON-66,-,-,-	
2		AA65-30105C	CLAMPER CORE-WIRE;ALL MODEL,NYLON 66,V2,	
2		AA65-30110A	CLAMPER CORE-WIRE;ALL MODEL,NYLON 66,V2,	
2		AA68-01767A	LABEL-CRT;21A8,9,21K2,3,15K2,8,PET,KT-10	
2	TSE	AA68-50067B	LABEL-RATING;ART PAPER(90),ALL MODEL,LAM	
⚠ 2		AA96-00697A	ASSY POWER CORD;,KKP419C,CP2/NO(4.0),H/C	
3		AA65-30008A	CLAMPER CORE-CORD;-,PE,HB,-,BLK,-	

ASSY K/D-SKD P/MATERIAL

1	A	AA98-01629A	ASSY K/D-SKD P/MATERIAL;CTV,SKD FORMAT-3	
2	SMALL	0203-001269	TAPE-OPP MASKING;#301,T0.06,W75,L50000,N	
2		6902-000001	BAG AIR;LDPE,T0.2,L1800,W1000,TRP,,,LDPE	
2		6902-000061	BAG AIR;LDPE,T0.2,L1000,W500,TRP,,,	
2		AA60-40006A	PIN-STAPLE;AUTO,33X17.8X2.4,H18,33X17.8X	
2		AA61-30009A	LOCKER-BAND,CLIP;-,SPC-1,-,-,18MM T0.5,-	
2	WOODEN	AA63-10007C	BAND-PP;W18,CLEA,1G	
2	15	AA68-50359A	LABEL-SHPG,MARK;KRAFT LINER,-,-,-,YEL,ST	
2	WOODEN	AA69-01574B	PAD-UNICOM;,UNICOM,1082,822,T30	
2	WOODEN	AA69-01574C	PAD-UNICOM;,UNICOM,1060,800,T30	
2	WOODEN	AA69-01618A	MASTER CARTON-IN;,CB DW-3,YEL,1067,807,5	
2	WOODEN	AA69-01619A	MASTER CARTON-OUT;,CB DW-3,1085,825,540,	
2		AA69-02444A	PALLET-CKD;CKD,PAPER,1130,600,120	
2	WOODEN	AA69-02445S	PALLET-SET;CKD(PAPER BOX),PAPER,1100,840	
2		AA69-10038A	PAD-PLATE;CB DW-2,YEL,995,685,-,-,-,-	
2	SMALL	AA69-10040L	PAD-PLATE;CB SW-3,YEL,550,360,-,B-TYPE,-	
2		AA69-10045A	PAD;PS,-,900,360,T18,C=0.016,-,-	
2		AA69-10045B	PAD;PS,-,-,-,T36,C=0.016,-,-	
2	SMALL	AA69-40004F	MASTER CARTON;-,CB SW-2,-,355,265,255,YE	
2		AA69-40008A	MASTER CARTON;-,CB DW-3,-,1095,555,800,Y	
2		AA69-40009A	MASTER CARTON;-,CB DW-3,-,1115,580,90,YE	
2	SMALL	AA69-40013C	MASTER CARTON;-,CB DW-3,-,560,370,275,YE	
2		AA69-40014A	MASTER CARTON;-,CB DW-3,-,765,570,265,YE	
2		AA69-90001A	CHEMICALS-SILICAGEL;-,-,-,-,-,M2,5GR,-,-	
2		AA02-00013A	TAPE ETC-RIBBON;-,-,-,101CM,250MT,-,-,-	
2		AA02-00015A	TAPE ETC-RIBBON;-,-,-,64CM,250MT,-,-,-	

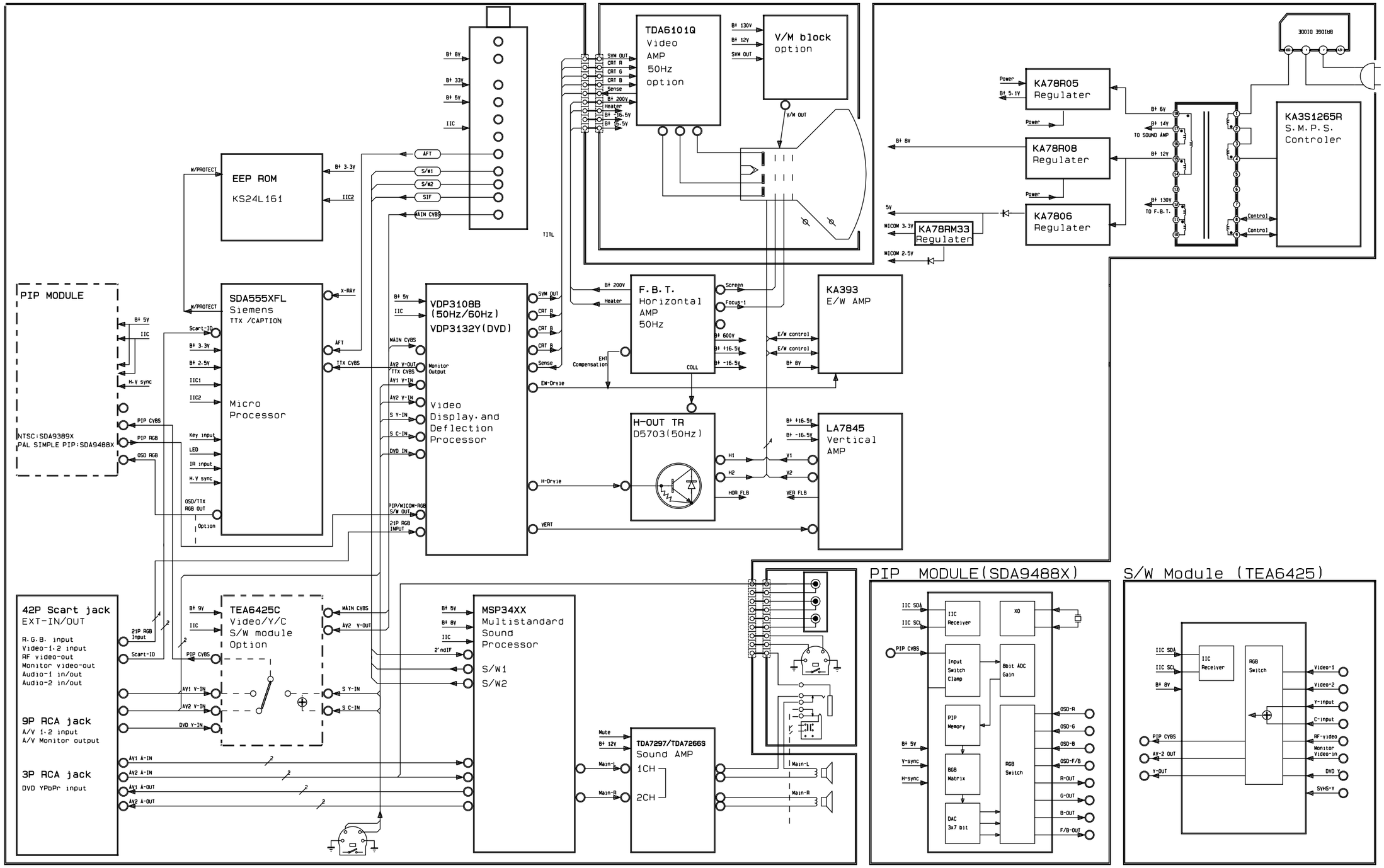
8. Block Diagrams

8-1 Power Diagram

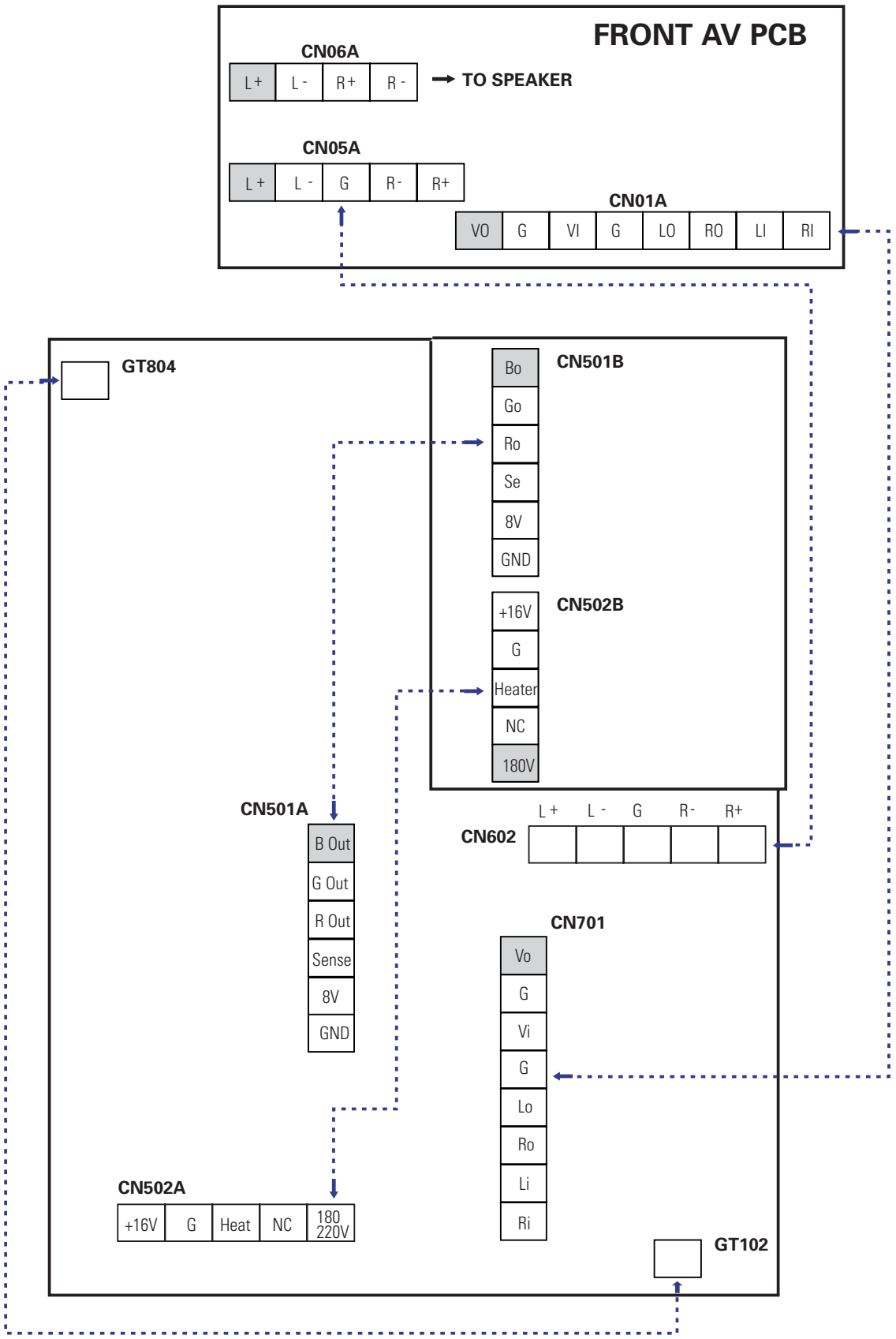


8-2 Block Diagram

KS2A POWER DIAGRAMS

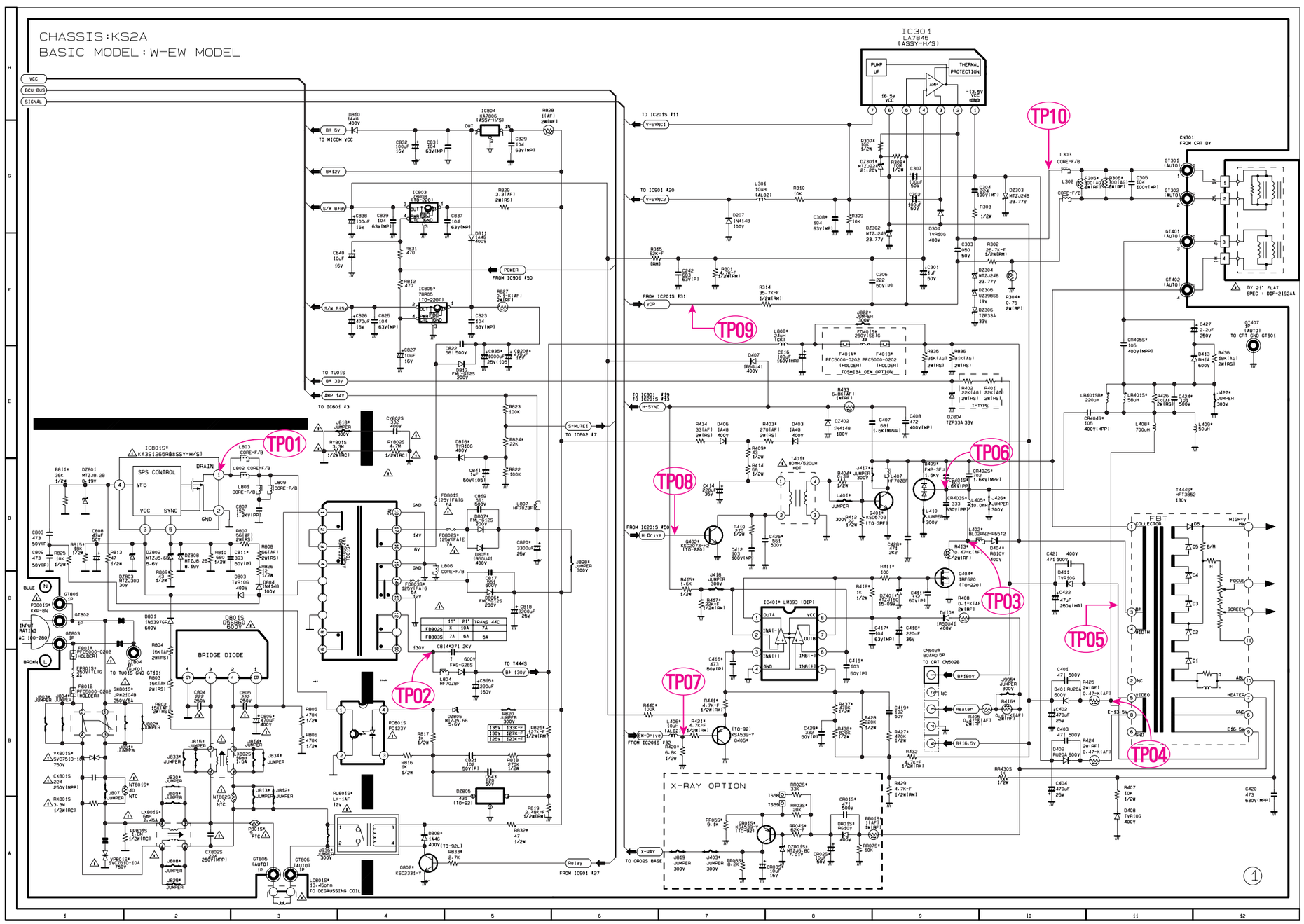


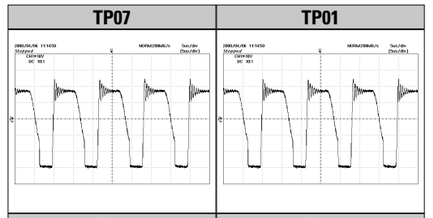
9. Wiring Diagram

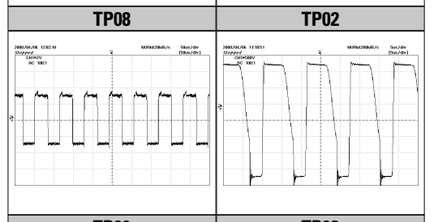


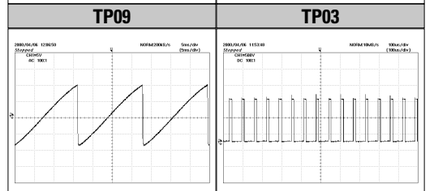
10. Schematic Diagrams

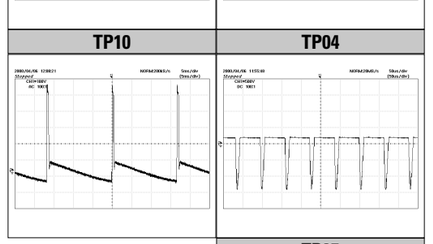
10-1 MAIN 1-1

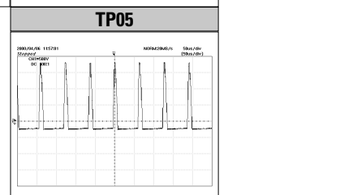


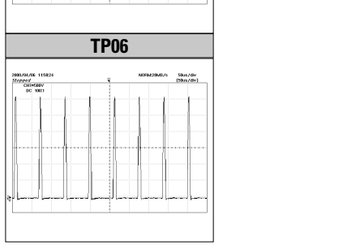




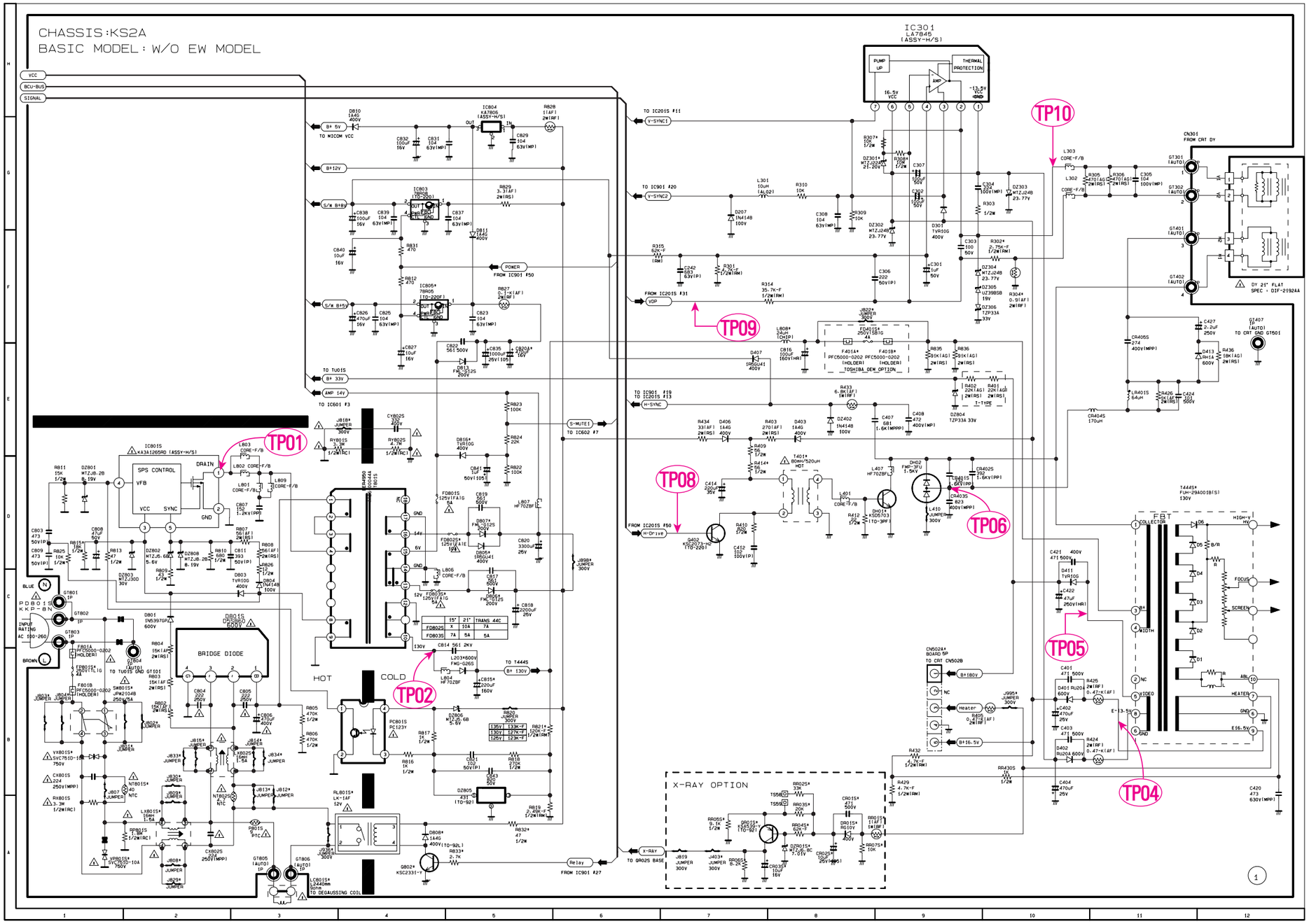


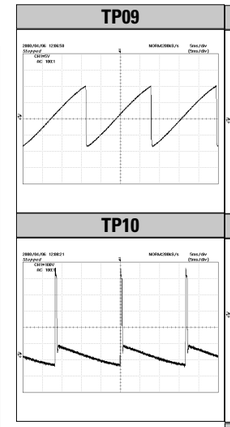




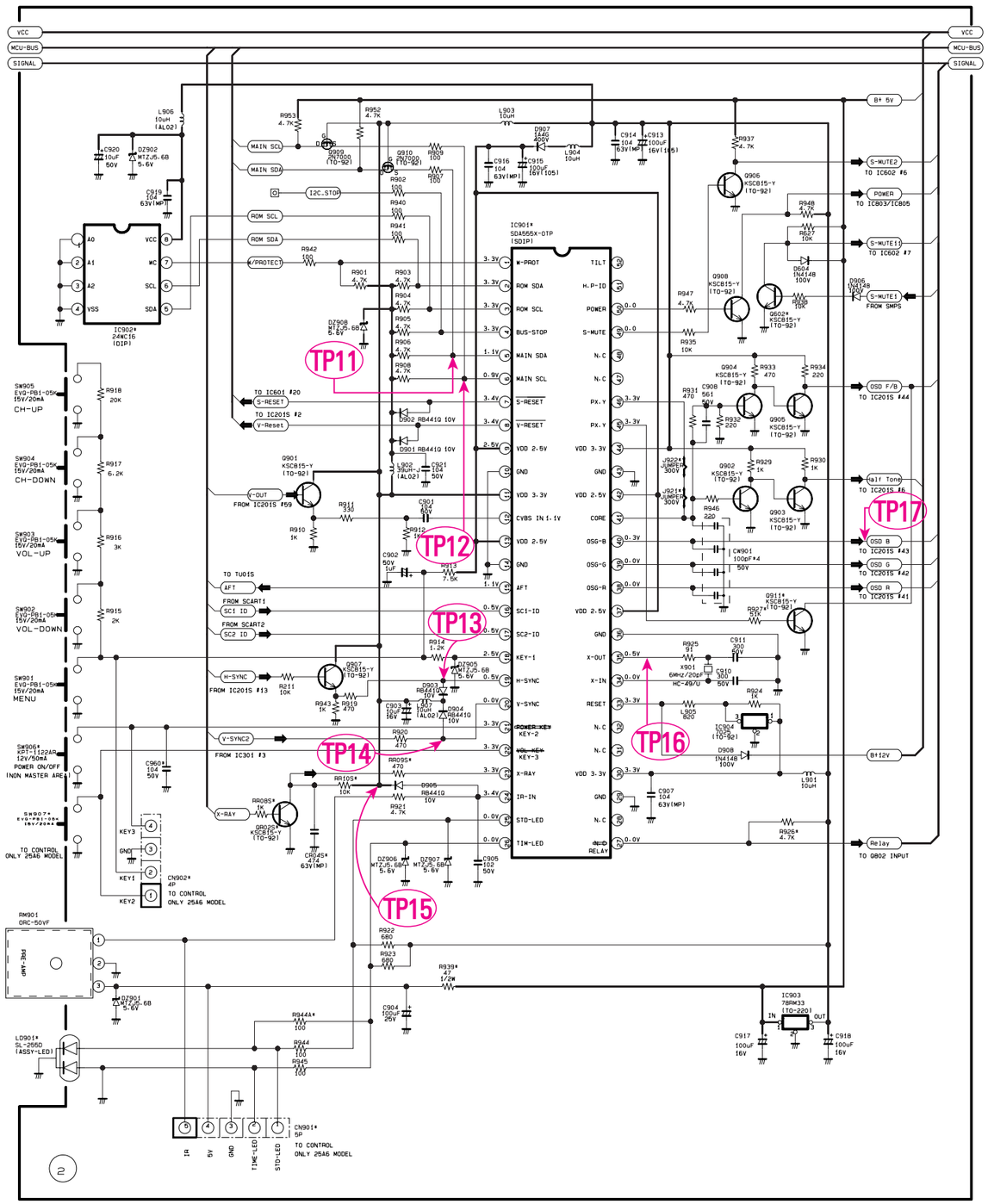


10-2 MAIN 1-2


CHASSIS:KS2A
BASIC MODEL : W/O EW MODEL
IC301
LA7845
(ASSY-H/S)
TP01
TP02
TP04
TP05
TP06
TP08
TP09
TP10
HOT
COLD
BRIDGE DIODE
SPS CONTROL
X-RAY OPTION
DY 21" FLAT
SPEC : DIF-2192AA


TP09
TP01
TP10
TP02
TP04
TP05
TP06
TP08

10-3 MAIN 2



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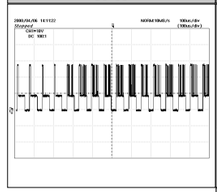
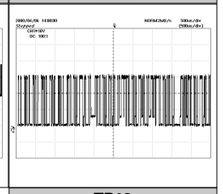
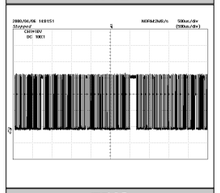


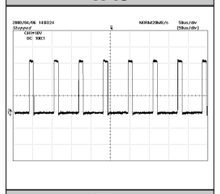
TP11



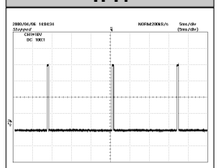
TP12



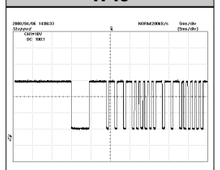
TP13



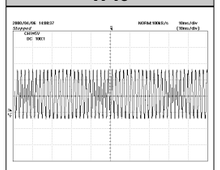
TP14



TP15

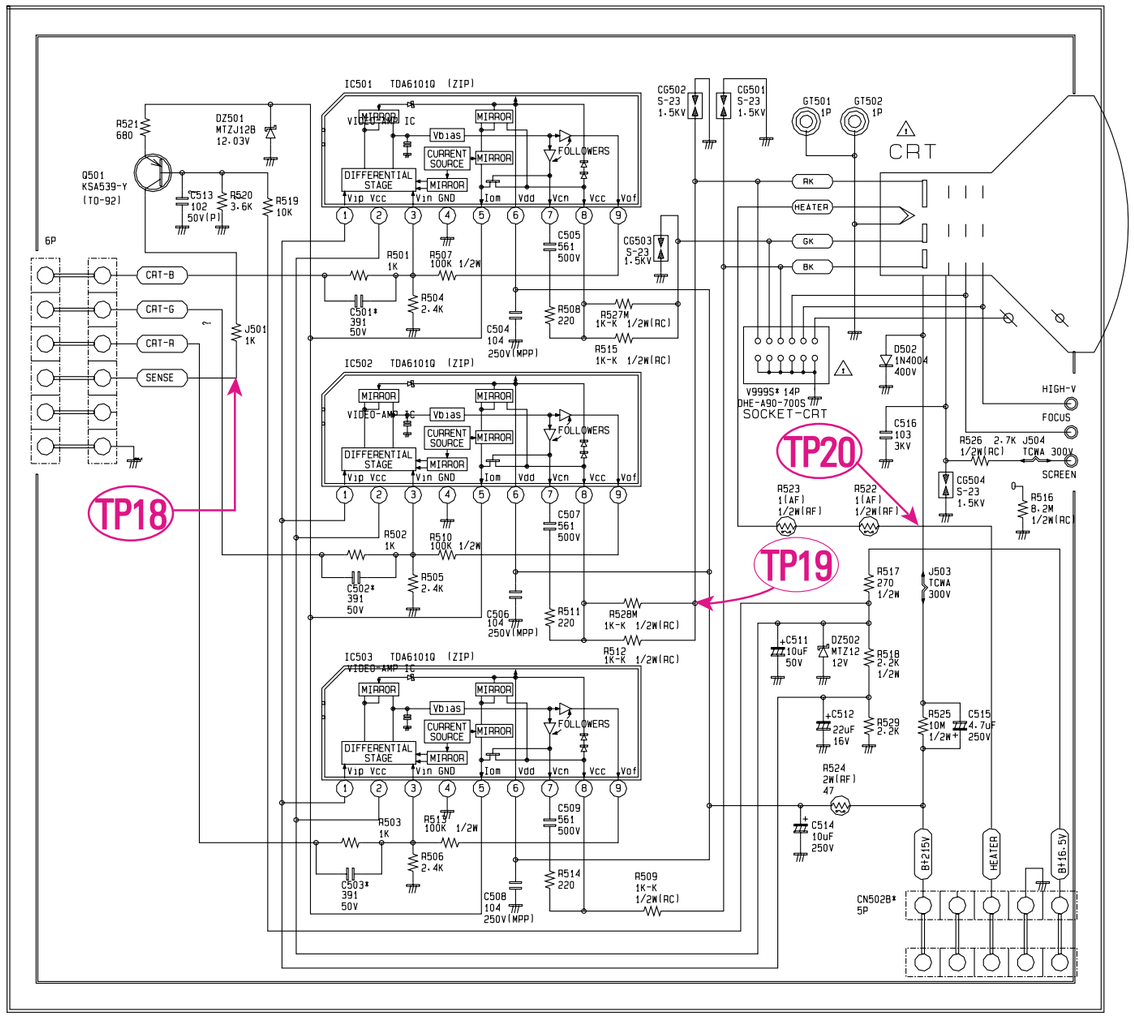


TP16

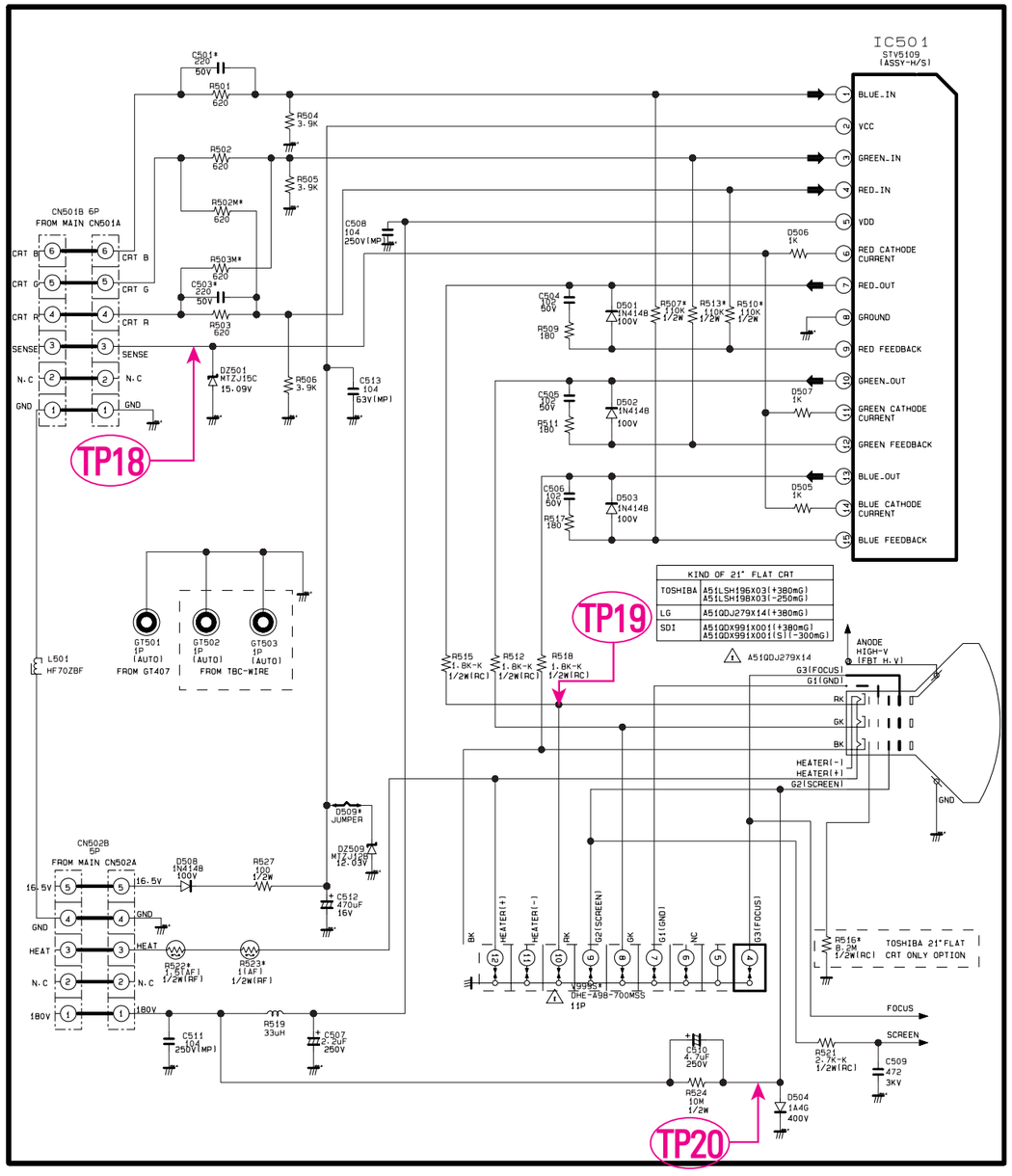


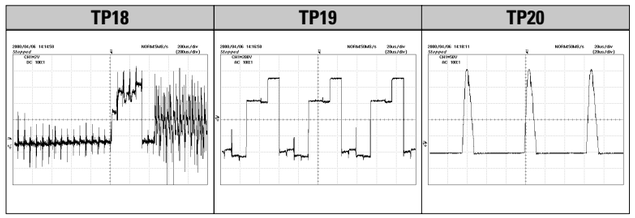
10-4 MAIN 2(CRT)

REVISION 1

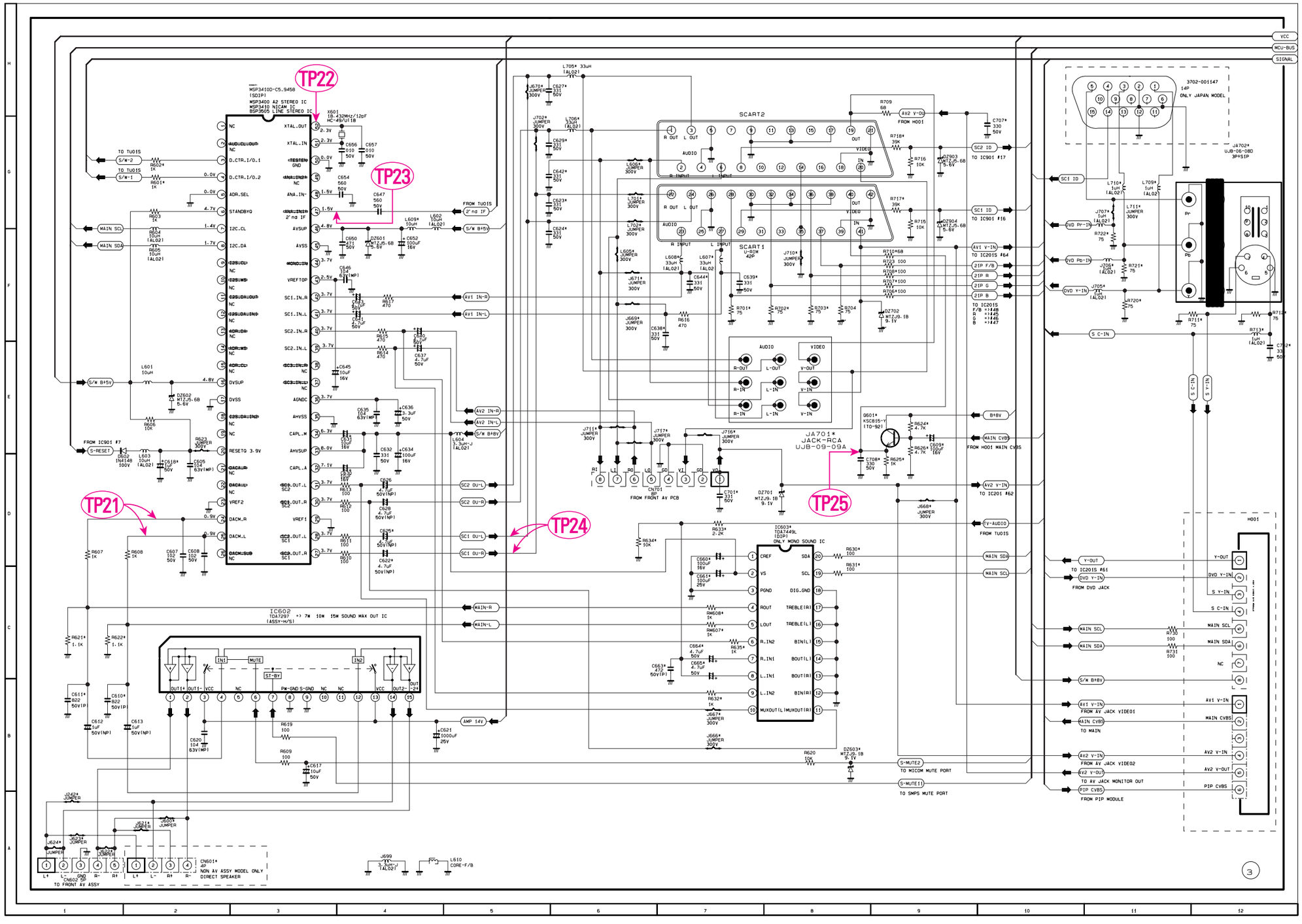


REVISION 2

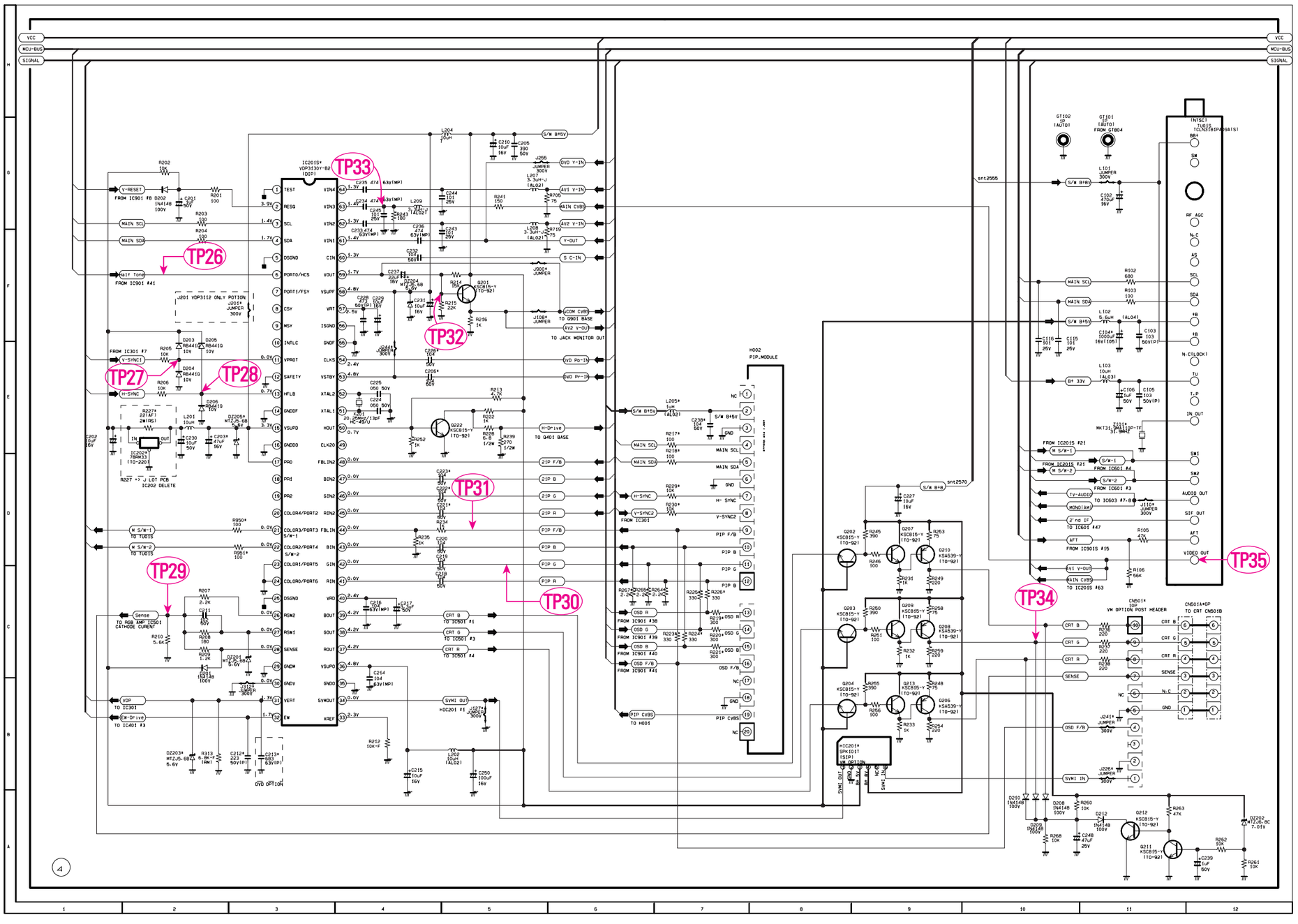




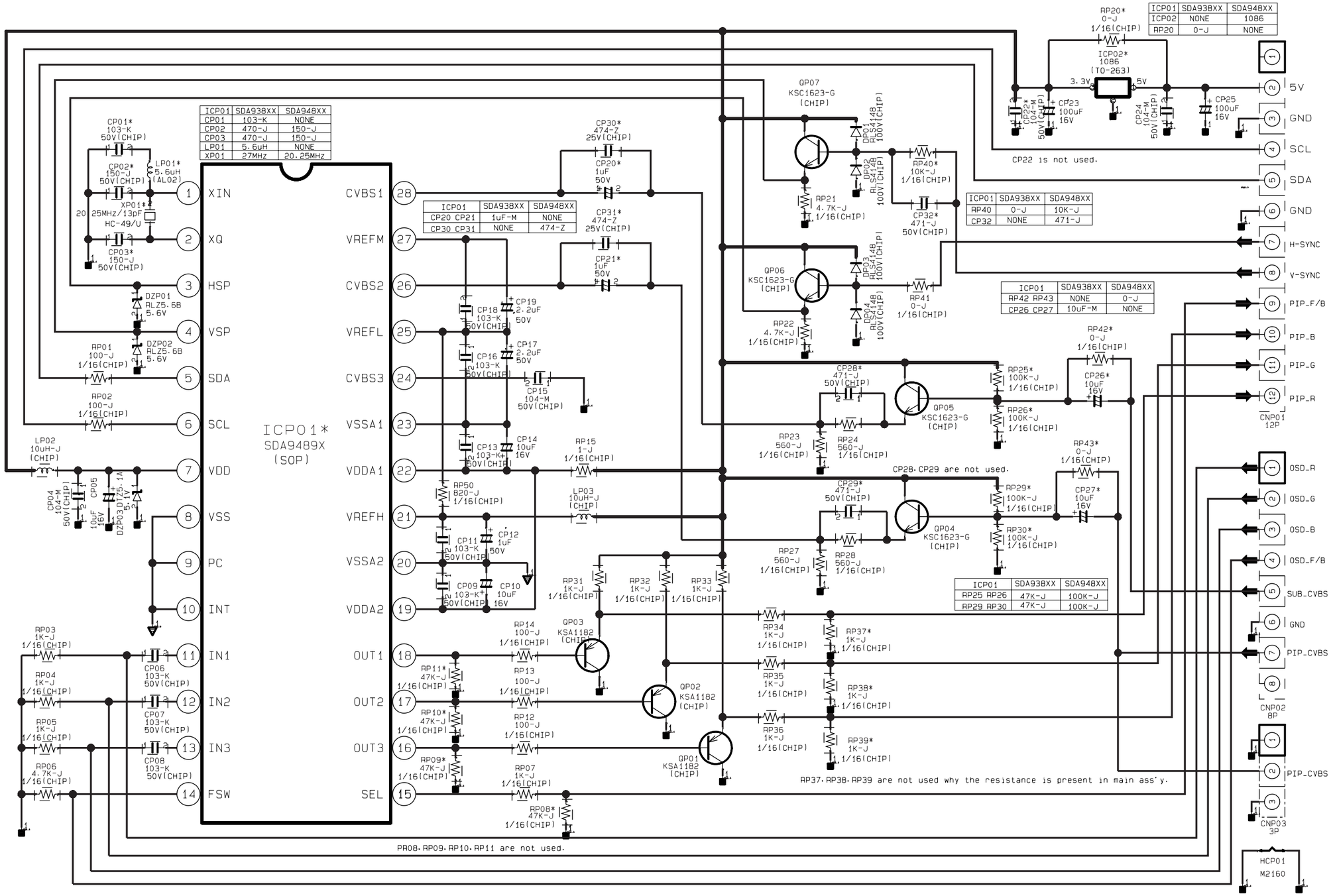
10-5 MAIN 3/4


TP21
TP22
TP23
TP24
TP25
MSP34100-C5.9458
(SDIP)
MSP3400 A2 STEREO IC
MSP3410 NICAM IC
MSP3505 LINE STEREO IC
SCART2
SCART1
IC602
TDA7297
(ASSY-M/S)
IC603*
TDA7449L
(DIP)
ONLY MONO SOUND IC
JA701*
JACK-RCA
UJB-09-09A
3702-001147
14P
ONLY JAPAN MODEL
JA702*
UJB-06-08D
3P+5P
H001
CN601*
4P
NON AV ASSY MODEL ONLY
DIRECT SPEAKER
CN602 5P
TO FRONT AV ASSY
CN701
3P
FROM FRONT AV PCB
VCC
MCU-BUS
SIGNAL

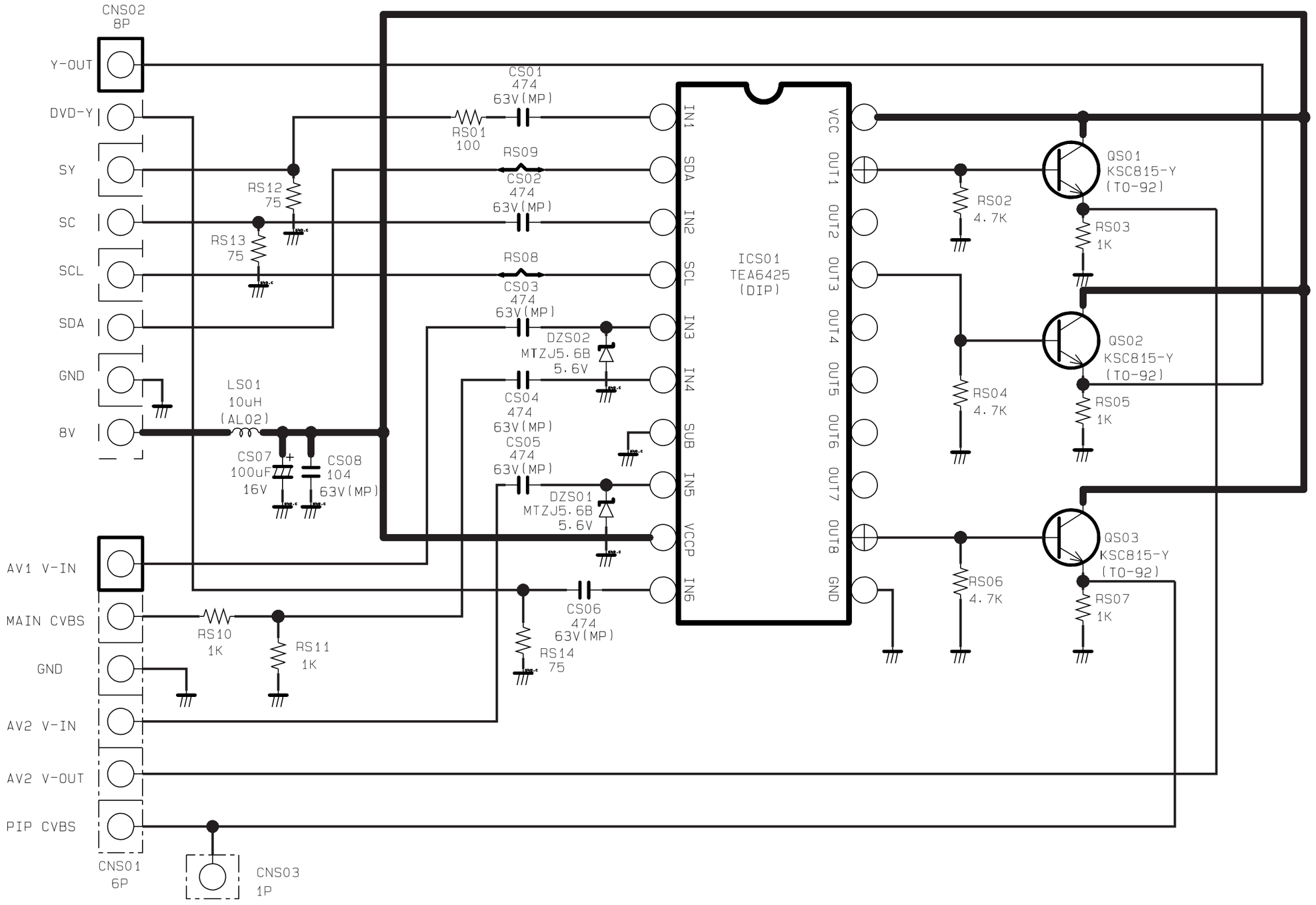
10-6 MAIN 4/4


TP26
TP27
TP28
TP29
TP30
TP31
TP32
TP33
TP34
TP35
IC201*
VDP3130Y-B2
(DIP)
H002
PIP_MODULE
CN501*
VM OPTION POST HEADER
TO CRT CN501B
TUD15
TO Q901 BASE
TO JACK MONITOR OUT
TO G401 BASE
TO H001
TO IC301
TO IC401 #3
TO IC501 #1
TO IC501 #3
TO IC501 #4
TO IC901 #41
TO IC901 #40
TO IC901 #39
TO IC901 #38
TO IC603 #7-8
TO IC601 #47
TO IC201S #63
FROM IC201S #21
FROM IC601 #4
FROM IC601 #3
FROM IC901S #15
FROM IC804
FROM IC901 #8
FROM IC301 #7
TO RGB AMP IC501
CATHODE CURRENT
IC202 DELETE
DVD OPTION
J201 VDP3112 ONLY POTION
VCC
MCU-BUS
SIGNAL
S/W B+5V
S/W B+8V
B+ 33V
MAIN SCL
MAIN SDA
DVD Y-IN
AV1 Y-IN
MAIN CVBS
AV2 Y-IN
Y-OUT
S C-IN
COM CVBS
AV2 Y-OU
DVD Pb-IN
DVD Pr-IN
H-Drive
2IP F/B
2IP B
2IP G
2IP R
P1P F/B
P1P B
P1P G
P1P R
OSD R
OSD G
OSD B
OSD F/B
PIP CVBS
CRT B
CRT G
CRT R
SENSE
SVM1 OUT
SVM1 IN
RF AGC
AUDIO OUT
SIF OUT
VIDEO OUT
AFT
TP32
TP26
TP33
TP27
TP34
TP28
TP35
TP29
TP30
TP31

10-7 PIP


ICP01* SDA9489X (SOP)
XIN
XQ
HSP
VSP
SDA
SCL
VDD
VSS
PC
INT
IN1
IN2
IN3
FSW
CVBS1
VREFM
CVBS2
VREFL
CVBS3
VSSA1
VDDA1
VREFH
VSSA2
VDDA2
OUT1
OUT2
OUT3
SEL
ICP01 SDA938XX SDA948XX
CP01 103-K NONE
CP02 470-J 150-J
CP03 470-J 150-J
LP01 5.6uH NONE
XP01 27MHz 20.25MHz
ICP01 SDA938XX SDA948XX
CP20 CP21 1uF-M NONE
CP30 CP31 NONE 474-Z
ICP01 SDA938XX SDA948XX
RP40 0-J 10K-J
CP32 NONE 471-J
ICP01 SDA938XX SDA948XX
RP42 RP43 NONE 0-J
CP26 CP27 10uF-M NONE
ICP01 SDA938XX SDA948XX
RP25 RP26 47K-J 100K-J
RP29 RP30 47K-J 100K-J
ICP01 SDA938XX SDA948XX
ICP02 NONE 1086
RP20 0-J NONE
CP22 is not used.
CP28. CP29 are not used.
RP37. RP38. RP39 are not used why the resistance is present in main ass'y.
PR08. RP09. RP10. RP11 are not used.
5V
GND
SCL
SDA
GND
H-SYNC
V-SYNC
PIP_F/B
PIP_B
PIP_G
PIP_R
OSD_R
OSD_G
OSD_B
OSD_F/B
SUB_CVBS
GND
PIP_CVBS
PIP_CVBS
CNP01 12P
CNP02 8P
CNP03 3P
HCP01 M2160

10-8 VIDEO SWITCH



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